

The background of the entire page is a microscopic image showing numerous spores of Entomophthorales. These spores are roughly spherical or oval-shaped, with a clear outer boundary and a central region containing several smaller, reddish-brown structures, likely nuclei or organelles. The spores are scattered across the page, creating a textured, biological background.

ARSEF

ARS Collection of
Entomopathogenic
Fungal Cultures

ENTOMOPHTHORALES

FULLY INDEXED

[INCLUDES 1568 ISOLATES]

USDA-ARS Biological Integrated Pest Management Research
Robert W. Holley Center for Agriculture and Health
538 Tower Road
Ithaca, New York 14853-2901

28 July 2011

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IMPORTANT NOTE

Recent phylogenetically based reclassifications of fungal pathogens of invertebrates

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UPDATED July 2011

Some seemingly dramatic and comparatively recent changes in the classification of a number of fungi may continue to cause confusion or a degree of discomfort to many of the clients of the cultures and informational resources provided by the ARSEF culture collection. This short treatment is an attempt to summarize some of these changes, the reasons for them, and to provide the essential references to the literature in which the changes are proposed.

As the Curator of the ARSEF collection I wish to assure you that these changes are appropriate, progressive, and necessary to modernize and to stabilize the systematics of the fungal pathogens affecting insects and other invertebrates, and I urge you to adopt them into your own thinking, teaching, and publications.

The identifications in the ARSEF catalogs (<http://www.ars.usda.gov/Main/docs.htm?docid=12125>) incorporate these new classifications as soon as we can confirm the correct new identifications of fungi and, where genera or species are being split on molecular grounds, to determine and to apply the correct new identifications.

General Reclassification of Fungi

The results of a global cooperative effort involving dozens of mycologists (including the curator of this collection) to reclassify the fungi according to phylogenetically sound principles based on the DNA sequence data for multiple genes has recently resulted in the publication of two monumentally important publications that completely rework mycological systematics. The earlier publication was a phylogenetic overview of virtually all fungi (James *et al.* 2006). The second publication (Hibbett *et al.* 2007) provided the necessary taxonomic readjustments that were indicated by the phylogenetic studies.

Microsporidia

Many mycologists and invertebrate pathologists are now aware that the Microsporidia have been proven beyond any reasonable doubt to be comparatively recent and highly derived endobiotic fungi. They are neither extremely ancient eukaryotes nor affiliated with protozoans as most textbooks indicate. None of this realignment to the fungi is being disputed by either microsporidiologists or phylogenetic mycologists. The rationale for this realignment is presented succinctly in James *et al.* (2006). These fascinating organisms connect to the fungal tree of life at the base of the nonflagellate fungi (among or near the fungi traditionally treated as the Zygomycota) but their exact affinities and nearest remain uncertain.

Zygomycota, Zygomycotina, Zygomycetes and Entomophthorales

The phylogenetic reclassification of fungi (Hibbett *et al.*, 2007) significantly modified the traditional view of the most ancestral nonflagellate fungi. The phylum Zygomycota, subphylum Zygomycotina, and class Zygomycetes disappeared in their widely understood sense to be replaced by the phylum Glomeromycota (for arbuscular mycorrhizal fungi) and a series of new subphyla not yet assigned to any phylum (because of the obviously polyphyletic nature of the zygomycetes as traditionally treated). The Entomophthorales is reclassified in the subphylum Entomophthoromycotina Humber (in Hibbett *et al.* 2007); the other new subphyla in this group are the Mucormycotina, Zoopagomycotina and Kickellomycotina. Where there had been some question about whether *Basidiobolus* and its close relatives should be retained in the Entomophthorales or moved to a position closer to some of the blastocladialean water molds, James *et al.* (2006) unequivocally retain *Basidiobolus* in an ancestral position in the Entomophthorales.

Despite the short-term frustration of needing to deal with fungi belonging to these groups that the familiar concepts of Zygomycota, Zygomycotina and Zygomycetes are now abandoned. Until such a time as the molecular studies clarify the overall relationships among these fungi and establish a new set of phyla, my practical advice to the clientele of the ARSEF culture collection is to continue to use these discontinued phylum, subphylum and class names since (1) their meanings remain unambiguous in terms of the fungi included, and (2) journals and other outlets may remain unwilling or unable for some time still to handle the concepts of new subphyla with unassigned status ('*incertae sedis*').

Entomopathogenic Ascomycetes and Associated Anamorphic (Conidial) States

Among all of the major taxonomic changes within the fungi that affect entomopathogenic fungi, the most dramatic and far-reaching involve the ascomycetes and their conidial (anamorphic) states classified among the pyrenomycetous fungi of the order Hypocreales. In one of the first major changes to be noted, those ascomycetous entomopathogens whose asci are produced in perithecia (nearly closed spherical to flask-like fruiting bodies) are now put in the class Sordariomycetes, a name based on a valid generic name, rather than in the historically familiar class Pyrenomycetes, a name based on the morphology of the fruiting body. The great majority of these fungi have long been recognized to belong in the family Clavicipitaceae (mostly in the genera *Cordyceps*, *Torrubiella* or *Hypocrella*). A major phylogenetic reclassification of the Clavicipitaceae (Sung *et al.* 2007; available free of charge at <http://www.studiesinmycology.org>) has split this family into three (Table 1), a long overdue major reworking of the taxonomy of *Cordyceps* and, subsequently, a reshuffling of anamorphic states among these families. This publication by Sung *et al.* (2007) is very long and complex since it includes a highly detailed phylogenetic analysis of these fungi as well as presenting the new taxonomy, descriptions of new families, genera, and species, and a very large number of new combinations (mostly segregating *Cordyceps* into their newly described segregate genera), and listing of the known or suspected anamorphic states associated with these taxa.

Note that Table 1 shows *Torrubiella* to be split between two families. This is an untenable position in a phylogenetically based classification that requires all taxa to represent monophyletic lineages. Future phylogenetic studies that will result in the reclassification of *Torrubiella* are obviously required. Also note that some anamorphic states with morphologies referable to *Hirsutella*, *Paecilomyces* and *Verticillium* (the latter two genera in their old senses from before recent phylogenetic reclassifications discussed below may occur in more than one family; this underscores the need to regard anamorphic states as being named in form-genera defined only by their morphologies and similar modes of development rather than by phylogenetic relatedness.

Table 1. Summary of some major teleomorphic (sexual) and anamorphic (conidial) genera of Hypocreales pathogenic to invertebrates (Sung *et al.* 2007).

	FAMILY		
	Clavicipitaceae	Cordycipitaceae	Ophiocordycipitaceae
Teleomorphs:	<i>Hypocrella</i> , <i>Metacordyceps</i> , <i>Regiocrella</i> , <i>Torrubiella</i>	<i>Cordyceps</i> s.str., <i>Torrubiella</i>	<i>Ophiocordyceps</i> , <i>Elaphocordyceps</i>
Anamorphs:	<i>Aschersonia</i> , <i>Metarhizium</i> , <i>Nomuraea</i> , <i>Paecilomyces</i> -like ¹ , <i>Pochonia</i> , <i>Rotiferophthora</i> , <i>Verticillium</i> -like ²	<i>Beauveria</i> , <i>Engyodontium</i> , <i>Isaria</i> , <i>Lecanicillium</i> , <i>Mariannaea</i> -like, <i>Microhilum</i> , <i>Simplicillium</i>	<i>Haptocillium</i> , <i>Harposporium</i> , <i>Hirsutella</i> , <i>Hymenostilbe</i> , <i>Paraisaria</i> , <i>Purpureocillium</i> , <i>Sorospora</i> , <i>Syngliocladium</i> , <i>Tolypocladium</i> , <i>Verticillium</i> -like ²

¹ Species formerly in *Paecilomyces* sect. *Isarioidea*, now excluded from *Paecilomyces* in the strict sense but also from *Isaria* (which now includes most entomogenous species transferred from *Paecilomyces*).

² Species formerly in *Verticillium* sect. *Prostrata*, now excluded from *Verticillium* in the strict sense but not yet reclassified in the segregate genera recognized by Zare and Gams (see below).

Table 2. Publications eliminating and reclassifying *Verticillium* section *Prostrata*

PART	AUTHORS	SUBJECT COVERED
1	Zare, Gams & Culham (2000)	ITS sequence analyses
2	Sung, Spatafora <i>et al.</i> (2001)	SSU, LSU rDNA sequence analyses
3	Gams, Zare (2001)	Generic reclassification
4	Zare, Gams (2001)	<i>Lecanicillium</i> and <i>Simplicillium</i> monograph
5	Zare, Gams, Evans (2001)	<i>Pochonia</i> , <i>Rotiferophthora</i> monograph
6	Zare, Gams (2001)	<i>Haptocillium</i> monograph

Table 3. Current phylogenetically based classification within Hypocreales of some species formerly classified in *Paecilomyces* sect. *Isarioidea* (following Luangsa-ard *et al.* 2005; Sung *et al.* 2007; Luangsa-ard *et al.* 2011)

FAMILY	GENUS	INCLUDED SPECIES
Clavicipitaceae	' <i>Paecilomyces</i> ' ¹	<i>carneus</i> , <i>marquandii</i>
Cordycipitaceae	<i>Isaria</i>	<i>amoenorosea</i> , <i>cateniannulata</i> , <i>cateniobliqua</i> , <i>cicadae</i> , <i>coleopterora</i> , <i>farinosa</i> , <i>fumosorosea</i> , <i>ghanensis</i> , <i>tenuipes</i>
Ophiocordycipitaceae	<i>Purpureocillium</i>	<i>lilacinum</i> (syn.: <i>Paec. lilacinus</i>)

¹ No generic re-assignments have been made for these hypocrealean anamorphs that continue (for lack of better alternatives) to be treated provisionally as *Paecilomyces* species. The generic affinities of other excluded '*Paecilomyces*' species noted by Luangsa-ard *et al.* (2005) remain uncertain.

Phylogenetically based reclassification of *Verticillium* section *Prostrata* – The extensive, phylogenetically based reclassifications of conidial fungi that common pathogens of insects or other invertebrates began with the reclassification of *Verticillium* species. The venerable classification of this genus (Gams 1971) recognized the sections *Verticillium* and *Prostrata*. All species in *Verticillium* sect. *Verticillium*, which included the phytopathogens with well differentiated, erect conidiophores, are anamorphs of perithecial ascomycetes in the order Phyllachorales. The species in *Vert.* sect. *Prostrata*, however, were anamorphs attributable to the order Hypocreales (Sordariomycetes). Because the current systematics practices recognize monophyletic taxa, it was necessary to remove the species from *Verticillium* section *Prostrata* to other genera. This reclassification was done in six publications (Table 2) reflecting primarily the doctoral research of Rasoul Zare under the guidance of Walter Gams. Most entomopathogens from this group are now placed in *Lecanicillium*, a genus whose type species, *L. lecanii*, was also recognized to be a species complex recognized to include at least three species (*L. lecanii*, *L. muscarium*, and *L. longisporum*) and thus replacing the morphologically highly variable *Verticillium lecanii*.

Phylogenetically based reclassification of *Paecilomyces* section *Isarioidea* – The long-used taxonomy of *Paecilomyces* by Samson (1974) divided this genus into two sections, and with all entomopathogens treated in *Paecilomyces* sect. *Isarioidea*. The type species, *P. variotii* Bainier, and all species in *Paecilomyces* sect. *Paecilomyces* are anamorphic (conidial) states of cleistothelial ascomycetes in the Eurotiomycetes. In an exact parallel with the situation for the two sections of *Verticillium*, all species in *Paec.* sect. *Isarioidea* are anamorphic states of pyrenomycete ascomycetes in the order Hypocreales, mostly in the family Clavicipitaceae although the reclassification of that family by Sung *et al.* (2007) now disperses these former *Paecilomyces* species among three families (Table 3). The taxonomic revision of *Paecilomyces* section *Prostrata* began with the lectotypification and determination of the status of *Isaria* (Hodge *et al.* 2005), a genus long ago relegated to synonymy with *Paecilomyces*, and the formal conservation of the generic name *Isaria* (Gams *et al.* 2005). The next step was a phylogenetic study that confirmed the polyphyletic nature of *Paecilomyces* in the broad sense (Luangsa-ard *et al.* 2004), followed then by a formal reclassification (with new combinations) of most species from *Paec.* sect. *Isarioidea* into *Isaria* while several other species from this section were excluded from both *Paecilomyces* and *Isaria* and still await transfers into appropriate anamorphic genera (Table 3). Most recently, *Paec. lilacinus* was transferred to a new (as yet monotypic) genus in Ophiocordycipitaceae as *Purpureocillium lilacinum* (Luangsa-ard *et al.* 2011).

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ARS COLLECTION OF ENTOMOPATHOGENIC FUNGAL CULTURES

History and Purpose of the ARSEF Collection

The goal of the ARS Collection of Entomopathogenic Fungal Cultures (ARSEF) is to provide fundamental support for basic and applied research on the fungal pathogens of invertebrates. Since its establishment in the early 1970s, this collection has served as a general research resource for the isolation, collection, preservation, and distribution of fungal strains from insects, other arthropods, and nematodes. Emphasis has always been placed on acquiring and distributing strains under active study for use as potential biological control agents. Basic research associated with the collection includes fungal systematics, fungal cytology, pathobiology, and methodology for fungal cryopreservation. The culture collection and its associated collection of microscope slides and herbarium specimens provide invaluable support for taxonomic research on and the diagnoses of fungal pathogens of invertebrates. Identification services for specimens and cultures have always been available free of charge to any laboratories requesting them.

We strive to provide users with pure and accurately identified fungal cultures, and the taxonomies applied to the fungi in this collection are continuously updated to reflect their current accepted classifications. The curator of the collection welcomes all correspondence about nomenclatural or taxonomic changes or possible misidentifications involving any ARSEF strains.

The ARSEF collection began as Richard Soper's research collection in the USDA-ARS laboratory at the University of Maine (Orono; UMO) where its cultures were initially designated by a UMO or RS prefix before adopting ARSEF in 1985. In 1978, the ARS Insect Pathology Research Unit relocated to Ithaca, NY, to work with the Boyce Thompson Institute (BTI) on the Cornell University campus. The Insect Pathology Research Unit became the Plant Protection Research Unit (PPRU) in 1985, and was renamed in 2008 as the Biological Integrated Pest Management Research Unit (BioIPM). The ARSEF collection moved from BTI in 1990 into the US Plant, Soil & Nutrition Laboratory which was rededicated in 2008 as the Robert W. Holley Center for Agriculture & Health to commemorate Dr. Holley's work there to complete the first sequencing of any nucleic acid; he received the 1968 Nobel Prize for Medicine or Physiology for this work.

BioIPM operates the ARSEF culture collection for the USDA Agricultural Research Service; the collection is not now and has never been owned or controlled by the Boyce Thompson Institute. ARSEF is one of the largest germplasm collections in the ARS, and is widely recognized for its active support of research on fungal pathogens of invertebrates. ARSEF and its associated herbarium are registered under the ARSEF acronym since 1985 with the World Federation of Culture Collections' World Data Center on Microorganisms and the International Association of Plant Taxonomists' *Index Herbariorum*, respectively.

From 1977 through 2008, all strains in the collection were preserved by immersion in liquid nitrogen. A program to lyophilize those isolates that could tolerate such was begun in the 1990's, and has expanded in scope and pace. At the end of 2008 the vast majority of the collection was consolidated in a single large nitrogen dewar in a new facility adjacent to the current building. Requests for cultures are filled with either actively growing cultures on appropriate media or, if available, as freeze-dried units.

Identifying and Acknowledging ARSEF Strains in Publications

We request that all publications using or referring to strains obtained from ARSEF acknowledge the U.S. Department of Agriculture, ARS Plant Protection Research Unit and state the ARSEF accession numbers of these strains. We would very greatly appreciate receiving reprints of all past, current, and future publications or even periodic notification about research in progress involving the use of ARSEF strains.

Accession numbers of strains from commercial culture collections such as the American Type Culture Collection (ATCC), Centraalbureau voor Schimmelcultures (CBS), CAB International Mycological Institute (IMI), and other registered general service collections are listed in this catalog to provide complete information about specific isolates. ***Representation of cultures obtained from ARSEF as being from ATCC, CBS, IMI or UAMH or other general service culture collections violates trademark laws, and persons doing so are subject to prosecution.*** Cultures received from ARSEF should be referred to by their ARSEF numbers only even if they are co-deposited in other other culture collections.

Depositing and Exchanging Cultures

BioIPM and ARSEF encourage deposition of entomopathogenic fungal cultures in the ARSEF collection—particularly strains used in published studies—and of voucher and reference specimens to its herbarium. Depositors may reserve the right to limit redistribution of any culture deposited with ARSEF for specified times upon consultation with the curator. Depositors can receive subcultures of their own depositions at any time; these cultures do not affect any allowances of free cultures. Exchanges of cultures between ARSEF and other research or general collections of fungal cultures are encouraged and are not subject to numerical limits.

Prior to shipping cultures from countries outside the United States contact the Curator to obtain the appropriate needed importation permit from the U.S. Department of Agriculture, Animal and Plant Health Inspection Services, Plant Protection and Quarantine.

When sending cultures and/or specimens to ARSEF, it is very important to include as much of the following information as possible:

1. Scientific name (and taxonomic authority) of the fungus.
2. Common and scientific name (with taxonomic authority) of the host.
3. Order and family of the host. (***This information is especially important!***)
4. Date and site of collection.
5. Name of collector.
6. Date and name of isolator.
7. Any collection, accession, or other identifier number(s) applied by the collector or sender.
8. Medium on which a culture is sent.
9. Any special requirements or conditions for growth (such as medium, temperature, pH).

Diagnostic Services for Cultures and Specimens

Specimens and cultures of unidentified fungi from invertebrates can be submitted to ARSEF for diagnosis. This service is an important function of the ARS Collections of Entomopathogenic Fungi and is provided without charge. Identifications and information about the disposition of specimens will be mailed to the sender.

Release of ARSEF Cultures from Containment or Quarantine

Neither the curator nor any employee of ARSEF or of the Plant Protection Research Unit is entitled to authorize the release of any culture it provides from laboratory containment or quarantine in the United States or elsewhere. Recipients of ARSEF cultures are responsible for obtaining appropriate and necessary permissions from or for providing official notifications to State and Federal regulatory agencies.

ORDERING INFORMATION

Please send all requests for isolates directly to the Curator (Richard A. Humber):

ARS Collection of Entomopathogenic Fungal Cultures
Robert W. Holley Center for Agriculture & Health
Tower Rd.
Ithaca, NY 14853–2901

Telephone: [+1] 607 255-1276
OR Fax: [+1] 607 255-1132
Email: richard.humber@ars.usda.gov

Academic, Government, and Other Nonprofit Institutions

1–5 isolates [up to 7 per calendar year]

no charge

6 or more isolates per order [8 or more per calendar year]

US\$50 per strain

Users from nonprofit institutions can receive up to five isolates without charge in any 6 month period, and up to seven cultures in any calendar year. Requests in excess of these limits may be charged at the rate of US\$50 per additional isolate requested. Requests from commercially sponsored research programs undertaken by nonprofit institutions are charged at the commercial rate and are not subject to numerical limits. Prices are subject to change without notice.

Commercial and Industrial Institutions

US\$75 per strain

Nonprofit institutions working on commercially sponsored contractual projects (such as screening programs) are charged at the rate of US\$75 per strain requested. There are no limits on the numbers of cultures that can be requested or shipped. Prices are subject to change without notice.

Commercial or industrial firms supporting research at the ARS Plant Protection Research Unit are entitled to free access to cultures pertinent to contracted projects; all other requests are charged at the current rate.

TERMS OF SHIPMENT

If necessary, billings for isolates are issued through the Boyce Thompson Institute (BTI). *Checks or money orders for strains must be payable to the Boyce Thompson Institute* and sent directly to the curator of the ARS Collections of Entomopathogenic Fungi, to BTI or deposited by direct electronic funds transfer according to information provided by BTI. Consult the curator of the collections with questions about fees due for any particular shipment.

All recipients of cultures are strongly encouraged to provide express shipper account numbers to allow shipping costs to be billed directly to recipients, thus assuring significant cost-savings to the ARSEF collection.

We request confirmation of receipt and viability of cultures shipped. Inviabile strains will be replaced.

ARSEF reserves the right to refuse to ship isolates

- to recipients who cannot handle them using standard microbiological practices,
- to laboratories that cannot assure laboratory containment of isolates except after obtaining permissions from applicable State and Federal regulatory agencies, or
- if use of routine mailing or shipping procedures cannot assure the receipt of viable cultures.

Neither ARSEF, BioIPM, nor the Boyce Thompson Institute is liable for damages arising from the misidentification of strains.

INTERPRETATION OF STRAIN ACCESSION DATA

The following examples provide a guide to the arrangement and interpretation of collection data included in this catalog.

Beauveria bassiana (Balsamo) Vuillemin

1564 [CBS 111238]. KV Desëo (103) Cortellini. Pupa, *Hyphantria cunea* [Lepidoptera: Arctiidae]. Mar 1984. Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna. Identification verified genomically. Ex-type isolate.

1564	ARSEF accession number.
[CBS 111238]	Alternative deposition in another culture collection.
KV Desëo (03)	Depositor and depositor's reference or accession number.
Cortellini	Collector of this isolate.
<i>Hyphantria cunea</i> [Lepidoptera: Arctiidae]	Original host [host's order and family]
Mar 1984	Date of accession or receipt by ARSEF.
Italy: Villa Cadé (Reggio Emilia), Emilia-Romagna	Country of origin followed by the locality and state.
Identification verified genomically. Ex-type isolate	Additional essential information about this isolate.

Conidiobolus thromboides Drechsler

73 [CSIRO EM534; FPMI 28] RG Kenneth (3040) ← ATCC (24419) ← DM MacLeod ← G Thoizon. *Rhopalosiphum insertum* [Homoptera: Aphididae]. Rec'd 18 Jan 1976. France: Val-de-Marne, La Varenne.

73	ARSEF accession number.
[CSIRO EM534; FPMI 28]	Alternative depositions of this strain in other culture collections.
RG Kenneth (3040)	Depositor and depositor's reference or accession number.
← ATCC (24419 ← DM MacLeod ← G Thoizon	Culture provenance: RG Kenneth obtained the culture from ATCC, which received it from DM MacLeod, who received it from G Thoizon.
<i>Rhopalosiphum insertum</i> [Acari: Eriophyidae]	Original host [host's order and family]
Rec'd Jan 18 1976	Date of receipt by ARSEF.
France: Val-de-Marne, La Varenne	Country of origin followed by the locality and region.

Hirsutella thompsonii Fisher

137 [ATCC 24874; CBS 952.73] CW McCoy (Fla. 68). *Phyllocoptruta oleivora* [Acari: Eriophyidae]. 1 Jan 1970. USA: Orlando, Florida.

137	ARSEF accession number.
[ATCC 24874; CBS 952.73]	Alternative depositions of this strain in other culture collections.
CW McCoy (Fla. 68)	Depositor and depositor's reference or accession number.
<i>Phyllocoptruta oleivora</i> [Homoptera: Aphididae]	Original host together with the host's order and family.
Jan 1 1970	Date of accession or receipt by ARSEF. Note: January 1 is a default date if an exact date in a year is unknown; the first day of the month is the default if no specific day in a month is known.
USA: Orlando, Florida	Country of origin followed by the locality and state.

ABBREVIATIONS

Information about the world's officially registered culture collections, their registered acronyms (e.g., ARSEF), and more is available from the CCINFO database and from other resources available at the website of the World Data Center for Microbiology <http://wdcm.nig.ac.jp/WDCHomePage_text.html>

ARSEF	ARS Collection of Entomopathogenic Fungi, USDA-ARS BioIPM Research Unit, Robert W. Holley Center for Agriculture & Health, 538 Tower Rd., Ithaca, New York, 14853-2901, USA
ATCC	American Type Culture Collection, PO Box 1549, Manassas, Virginia 20108, USA
CATIE	Centro Agronómico Tropical de Investigación y Enseñanza, Proyecto UIP, Apdo. Postal 7170, Turrialba, Costa Rica.
CBS	Centraalbureau voor Schimmelcultures, Uppsalalaan 8, 3584 CT Utrecht, The Netherlands
CCF	Culture Collection of Fungi, Department of Botany, Charles University, Prague, Czech Republic
CCFC	Canadian Collection of Fungus Cultures, Centre for Land and Biological Resources Research, Room 1015, K.W. Neatby Bldg., Ottawa, Ontario K1A 0C6, Canada
CDC	Centers for Disease Control and Prevention, Atlanta, Georgia 30333, USA
CENARGEN	Centro Nacional de Pesquisa de Recursos Geéticos e Biotecnologia, S.A.I.N. Parque Rural, C.P. 102372, 70770 Brasília, D.F., Brazil
CIRI	Corn Insects Research Unit, USDA-ARS, R.R. Box 45B, Ankeny, Iowa 50021, USA
CNPAF	National Center for Agricultural Research on Rice and Beans, EMBRAPA, Goiânia, Goiás, Brazil
CNPS	National Center for Agricultural Research on Soybeans, EMBRAPA, Londrina, Paraná, Brazil
CP	Strains isolated during joint US-Brazil program funded by US-AID to study fungal biocontrol of the insect pests of cowpeas
DAOM	National Mycological Herbarium, Centre for Land and Biological Resources Research, Agriculture Canada, Central Experimental Farm, Ottawa, Ontario, K1A 0C6, Canada
DAR	New South Wales Department of Agriculture, Rydalmere, NSW, Australia
EFCC	Korean Entomopathogenic Fungal Collection (JM Sung, Curator), Dept. of Agricultural Biology, Kangwon National University, Chuncheon, Rep. of Korea
FI	CSIRO Entomology Division, Collection of Entomopathogenic Fungi, Black Mountain Laboratories, Canberra, ACT, Australia. This collection, formerly curated by R. Milner, is now orphaned and is being transferred to ARSEF.
FPMI	Great Lakes Forestry Center (formerly Forest Pest Management Institute), 1219 Queen Street East, Sault Ste. Marie, Ontario P6A 5M7, Canada. This collection, formerly led by D MacLeod and D Tyrrell is orphaned and endangered. Its surviving isolates <i>may</i> be

transferred to DAOM.

GCRI	Horticulture Research International (formerly, Glasshouse Crops Research Institute), Worthing Road, Littlehampton, W. Sussex BN17 6LP, England, UK
HACC	Hindustan Antibiotics Ltd., Pimpri, Poona, India
IMI	(Now incorporated in United Kingdom National Culture Collection [UKNCC]) CABI Bioscience, Bakeham Lane, Egham, Surrey TW20 9TY, UK
INRA	Station de Recherches de lutte Biologique et Biocoenotique, INRA (Institut National de la Recherche Agronomique), La Minière – 78280 Guyancourt, France
IPLB	Unité de Lutte Biologique, Institut Pasteur, 28 Rue de Dr. Roux, 75724 Paris, France
IRRI	International Rice Research Institute, P.O. Box 933, Manila, Philippines
KEFC	(see EFCC)
KSU	Kansas State University, Department of Entomology, Manhattan, Kansas 66506, USA
MAF	Ministry of Agriculture and Fisheries, Canterbury Agriculture and Science Centre, Ellesmere Junction Road, P.O. Box 24, Lincoln, New Zealand
MU	Miami University, Willard Sherman Turrell Herbarium, Department of Botany, 79 Upham Hall, Oxford, Ohio 45056, USA
NCTC	National Collection of Type Cultures, Public Health Laboratory Service, 61 Colindale Ave., London NW9 5HT, England, UK
NRRL	ARS Culture Collection, USDA-ARS National Center for Agricultural Utilization Research, 1815 N. University, Peoria, Illinois 61604, USA
PSU	<i>Fusarium</i> Research Center, The Pennsylvania State University, 216 Buckhout Laboratory, University Park, Pennsylvania 16802, USA
QEC	Queen Elizabeth College, University of London, Department of Biology, Campden Hill Road, London W8 7AH, England, UK
QM	U.S. Army Natick Laboratories (formerly, Quartermaster Research and Development Center), Natick Massachusetts. Note: This collection has been transferred to NRRL.
RSA	Rancho Santa Ana Botanic Garden, 1500 North College Ave., Claremont, California 91711, USA
SBI	Sugarcane Breeding Institute, Indian Council of Agricultural Research, Coimbatore – 641 007, Tamil Nadu, India
UAF	University of Arkansas, Edpartment of Entomology, 321 Agriculture Building, Fayetteville, Arkansas 72701, USA
UAMH	University of Alberta Microfungus Collection, Devonian Botanic Garden, University of Alberta, Alberta T6G 2H7, Canada

***Basidiobolus* sp.**

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 270 RK Benjamin ← CW Emmons (2501). *Bufo marinus* (toad) dung. Rec'd Nov 1978. USA: NIH lab, Bethesda, Maryland.
- 271 RK Benjamin ← CW Emmons (2502) ← Lie-Kian-Joe. Frog dung. Rec'd Nov 1978. Indonesia.
- 273 RK Benjamin ← CW Emmons (2507) ← Deshpande. *Homo sapiens* [Primates: Hominidae]. Rec'd Nov 1978. Location not specified.
- 2048 D TeStrake (TL-10). Lizard dung. Rec'd 25 Nov 1985. USA: Tampa, Florida.
- 2049 D TeStrake (TL-12). Lizard dung. Rec'd 25 Nov 1985. USA: Tampa, Florida.
- 2050 D TeStrake (TL-13). Lizard dung. Rec'd 25 Nov 1985. USA: Tampa, Florida.
- 2051 D TeStrake (TT-5). Toad dung. Rec'd 25 Nov 1985. USA: Tampa, Florida.
- 2052 D TeStrake (TT-9). Toad dung. Rec'd 25 Nov 1985. USA: Tampa, Florida.
- 3764 R Nelson. Soil. 1990. Barbados.
- 5336 RA Humber. Lizard dung. Rec'd Aug 1996. USA: Sonoran desert, Tuscon, Arizona.
- 9887 DA Henk (dah11DG1). *Dyscophus guineti* [Anura: Microhylidae] from dung of captive frog. Jul 2009. Switzerland.
- 9888 DA Henk (dah6DL1). *Dendrobates leucomelas* [Anura: Dendrobatidae] from dung of captive frog. Jul 2009. Switzerland.
- 9889 DA Henk (dah8TM1). *Triturus marmoratus* [Caudata: Salamandridae] from dung of captive salamander. Jul 2009. Switzerland.
- 9890 DA Henk (dahBR17). *Hylarana erythraea* [Anura: Ranidae] from dung. Jul 2009. Malaysia.
- 9891 DA Henk (dahBR2). *Hylarana labialis* [Anura: Ranidae] from dung. Jul 2009. Malaysia.
- 9892 DA Henk (dahBR4). *Hylarana glandulosa* [Anura: Ranidae] from dung. Jul 2009. Malaysia.
- 9893 DA Henk (dahBR5). *Hylarana labialis* [Anura: Ranidae] from dung. Jul 2009. Malaysia.
- 9894 DA Henk (dahCH1). *Bufo bufo* [Anura: Bufonidae] from intestine. Jul 2009. United Kingdom: Cambridge, England.
- 9895 DA Henk (dahCH10). *Bufo bufo* [Anura: Bufonidae] from intestine. Jul 2009. United Kingdom: Cambridge, England.
- 9896 DA Henk (dahCH4). *Bufo bufo* [Anura: Bufonidae] from intestine. Jul 2009. United Kingdom: Cambridge, England.
- 9897 DA Henk (dahOWT1). *Bufo bufo* [Anura: Bufonidae] from dung. Jul 2009. United Kingdom: London, England.
- 9898 DA Henk (dahOWT2). *Bufo bufo* [Anura: Bufonidae] from dung. Jul 2009. United Kingdom: London, England.
- 9899 DA Henk (dahOWT3). *Bufo bufo* [Anura: Bufonidae] from dung. Jul 2009. United Kingdom: London, England.
- 9900 DA Henk (dahSAR2A). *Discoglossus* sp. [Anura: Discoglossidae] from dung. Jul 2009. Italy: Sardinia.
- 9901 DA Henk (dahSAR3A). *Discoglossus* sp. [Anura: Discoglossidae] from dung. Jul 2009. Italy: Sardinia.
- 9902 DA Henk (dahSAR4A). *Discoglossus* sp. [Anura: Discoglossidae] from dung. Jul 2009. Italy: Sardinia.
- 9903 DA Henk (dahT14). *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.
- 9904 DA Henk (dahT53). *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.
- 9905 DA Henk (dahT90). *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.
- 9906 DA Henk (dahTF3). *Bufo bufo* [Anura: Bufonidae] from intestine. Jul 2009. United Kingdom: Cambridge, England.
- 9907 DA Henk (dahTF6). *Bufo bufo* [Anura: Bufonidae] from intestine. Jul 2009. United Kingdom: Cambridge, England.
- 9908 DA Henk (dahTF8). *Bufo bufo* [Anura: Bufonidae] from intestine. Jul 2009. United Kingdom: Cambridge, England.
- 9909 DA Henk (dahTPOO1). Tadpole, *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.
- 9910 DA Henk (dahU22). *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.
- 9911 DA Henk (dahU71). *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.
- 9912 DA Henk (dahU84). *Alytes* sp. [Anura: Discoglossidae] from dung. Jul 2009. United Kingdom: London, England.

***Basidiobolus haptosporus* Drechsler**

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae. Synonym: *Basidiobolus meristosporus* Drechsler. *B. haptosporus* is a probable synonym of *B. ranarum*.

Caution: This species can cause human mycoses; most strains can be demonstrated to survive temperatures $\geq 37^\circ\text{C}$. Exercise caution to avoid inhalation of conidia or contact with cuts or abrasions.

- 261 [NRRL 1232; RSA 228] RK Benjamin ← CW Emmons. 4-year-old male, *Homo sapiens* [Primates: Hominidae]. Rec'd Nov 1978. Indonesia.

- 262 [RSA 964] RK Benjamin. Oak leaf mold. 10 May 1960. USA: Rancho Santa Ana Botanical Garden, Claremont, California.
- 263 [RSA 1269] RK Benjamin. Lizard dung. 4 Apr 1963. Mexico: La Suerte, Baja California.
- 264 [RSA 2252] RK Benjamin. Soil under Fremontodendron. Sep 1976. USA: Rancho Santa Ana Botanical Garden, Claremont, California.
- 272 RK Benjamin ← CW Emmons (2505) ← Lie-Kian-Joe. *Homo sapiens* [Primates: Hominidae]. Rec'd Nov 1978. Indonesia. Human mycosis.
- 1347 S Balazy (1580b). [Diptera: Brachycera] attached to decayed wood in a brook. 11 Aug 1983. Poland: Wielkopolski National Park.
- 8307 B Huang (L051203L2). 3 Dec 2005. USA: Cornell Plantations, Ithaca, New York.
- 8309 B Huang (L060407A2). 7 Apr 2006. USA: Bebee Lake, Ithaca, New York.

Basidiobolus haptosporus* var. *minor Srinivasan & Thirumalachar

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 8331 [ATCC 16579; CBS 310.66; IMI 118287] MJ Thirumalachar. Rec'd 22 Nov 2007.

Basidiobolus heterosporus Srinivasan & Thirumalachar

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 8332 [ATCC 16580] Acc'd 23 Feb 2007.

Basidiobolus magnus Drechsler

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 8330 [ATCC 15379; CBS 205.64; NRRL 3734] C Drechsler. Rec'd 22 Nov 2006.

Basidiobolus meristosporus Drechsler

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 8329 [ATCC 14450; NRRL 3733] C Drechsler. Acc'd 21 Feb 2007.

Basidiobolus microsporus RK Benjamin

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 265 [RSA 962] RK Benjamin. Lizard dung. 5 Apr 1960. USA: 5 mi NW of Agua Caliente Hot Springs, San Diego County, California.
- 267 [RSA 982] RK Benjamin. Duff under debris outside packrat nest. 23 May 1960. USA: 10 mi W of Barstow, Iron Mountain, California.
- 268 [RSA 1737] RK Benjamin. Lizard dung. 6 May 1962. USA: 10 mi S of Weldon, el. 3000 ft, Kern County, California.

- 269 [RSA 2088] RK Benjamin. Rodent dung. 29 Jul 1974. USA: nr. Cajon Pass, San Bernardino County, California.

Basidiobolus ranarum Eidam

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae. Possible synonyms: *Basidiobolus haptosporus* Drechsler, *Basidiobolus meristosporus* Drechsler.

Caution: Strains of this species may be able to grow at temperatures $\geq 37^{\circ}\text{C}$ and may be regarded as potential mycotic agents for humans and other mammals. These strains should be safe in research and/or teaching laboratories with routine microbiological precautions; avoid inhalation of conidia or contact with open cuts or abrasions.

- 260 [RSA 334] RK Benjamin. Toad dung. 27 Apr 1954. USA: Rancho Santa Ana Botanical Garden, Claremont, California.
- 1139 M Shimazu (F-57). *Dendrolimus spectabilis* [Lepidoptera: Lasiocampidae]. Acc'd 3 Apr 1984. Japan: Saitama Prefecture.
- 2787 M Blackwell. Lizard dung. Acc'd 16 Aug 1989. USA: Baton Rouge, Louisiana.
- 5889 R Nelson (USF 50). Fecal pellet of frog *Eumeces inaepectatus*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5890 R Nelson (USF 56). Fecal pellet of frog *Cnemidophorus sealineatus*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5891 R Nelson (USF 57). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5892 R Nelson (USF 70). Fecal pellet of frog *Scincella lateralis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5893 R Nelson (USF 71). Fecal pellet of frog *Scaphiopus holbrookii*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5894 R Nelson (USF 74). Fecal pellet of frog *Scincella lateralis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5895 R Nelson (USF 75). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5896 R Nelson (USF 76). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5897 R Nelson (USF 77). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5898 R Nelson (USF 78). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5899 R Nelson (USF 79). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.

- 5900 R Nelson (USF 80). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5901 R Nelson (USF 84). Fecal pellet of frog *Eumeces inexpectatus*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5902 R Nelson (USF 85). Fecal pellet of frog *Gastrophryne carolinensis*. Jul 1993. USA: University of South Florida Ecology Study Area, Tampa, Florida.
- 5903 R Nelson (USF 90). Isolated from soil sample. Aug 1993. USA: Tampa, Florida.
- 5904 R Nelson (USF SDI). Isolated from soil sample. Aug 1993. USA: University of South Florida Sundome, Tampa, Florida.
- 5905 R Nelson (USF SDII). Isolated from soil sample. Aug 1993. USA: University of South Florida Sundome, Tampa, Florida.
- 5906 R Nelson (USF 78MCZ-1). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5907 R Nelson (USF 78MCZ-2). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5908 R Nelson (USF 78MCZ-11). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5909 R Nelson (USF 78MCZ-15). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5910 R Nelson (USF 78MCZ-16). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5911 R Nelson (USF 78MCZ-18). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5912 R Nelson (USF 78MCZ-19). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5913 R Nelson (USF 78MCZ-20). Miconazole resistant single spore isolate from USF 78 [=ARSEF 5898]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5914 R Nelson (USF SD1MCZ-1). Miconazole resistant single spore isolate from USF SD1 [=ARSEF 5904]. Apr 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5915 R Nelson (USF 85Z1). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5916 R Nelson (USF 85Z2). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5917 R Nelson (USF 85Z3). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5918 R Nelson (USF 85Z4). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5919 R Nelson (USF 85Z5). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5920 R Nelson (USF 85Z6). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5921 R Nelson (USF 85Z11). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Sep 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5922 R Nelson (USF 85Z12). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5923 R Nelson (USF 85Z13). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5924 R Nelson (USF 85Z14). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5925 R Nelson (USF 85Z15). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5926 R Nelson (USF 85Z16). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5927 R Nelson (USF 85Z17). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5928 R Nelson (USF 85Z18). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.

- 5929 R Nelson (USF 85Z20). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5930 R Nelson (USF 85Z21). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5931 R Nelson (USF 85Z22). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5932 R Nelson (USF 85Z23). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5933 R Nelson (USF 85Z1Z1). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5934 R Nelson (USF 85Z1Z2). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5935 R Nelson (USF 85Z1Z3). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5936 R Nelson (USF 85Z1Z4). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5937 R Nelson (USF 85Z1Z5). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5938 R Nelson (USF 85Z1Z7). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5939 R Nelson (USF 85Z1Z8). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5940 R Nelson (USF 85Z1Z9). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5941 R Nelson (USF 85Z1Z10). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5942 R Nelson (USF 85Z1Z11). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5943 R Nelson (USF 85Z1Z12). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5944 R Nelson (USF 85Z1Z13). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5945 R Nelson (USF 85Z1Z14). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5946 R Nelson (USF 85Z1Z15). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5947 R Nelson (USF 85Z1Z16). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5948 R Nelson (USF 85Z1Z17). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5949 R Nelson (USF 85Z1Z19). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5950 R Nelson (USF 85Z19). Single zygospor culture from isolate USF 85 [=ARSEF 5902]. Jul 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 5951 R Nelson (USF 85Z1Z20). Single zygospor culture from isolate USF 85Z1 [=ARSEF 5915]. Nov 1996. USA: Laboratory manipulation, University of South Florida, Tampa, Florida.
- 6380 AA Callaghan (04 and 103) or (30). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Plantation of *Larix kaempferi*, Staffordshire, Keele, England.
- 6382 AA Callaghan (01 and 072) or (31). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Pasture, Staffordshire, Keele, England.
- 8308 B Huang (L060401C1). 1 Apr 2006. USA: near Maplewood Park, Ithaca, New York.
- 8328 [ATCC 14449] C Drechsler. Isolated from decaying plant residues. Acc'd 21 Feb 2007.
- Batkoa* sp.**
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 3131 K Hural (GF-3). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. Oct 1990. USA: Game Farm Rd., Ithaca, New York.
- 5810 RA Humber. [Coleoptera: Cantharidae]. 9 Aug 1998. Denmark.

- 6179 BJ Hicks (3). Larva, *Panolis flammea* [Lepidoptera: Noctuidae]. Jul 1998. United Kingdom: Dallas Forest, Moray District, Scotland.
- 6210 Rec'd 2 Jul 1999.
- 7370 AE Hajek (04 NY 9-1-1). Larva, *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 29 May 2004. USA: Saint Lawrence County, New York.

Batkoa apiculata (Thaxter) Humber

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. The nuclei of this taxon stain well and have granular contents when mounted in aceto-orcein or other nuclear stains. This fungus has a morphologically similar ancylistaceous fungus, *Conidiobolus pseudapiculatus* (q.v.), whose nuclei do not stain well and do not have granular contents.

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- 67 [IPLB 602] G Remaudière. *Myzus ascalonicus* [Homoptera: Aphididae]. 13 May 1975. France.
- 129 N Wilding (10). *Myzus persicae* [Homoptera: Aphididae] on potato. 11 Aug 1976. USA: Rogers Farm, Stillwater, Maine.
- 174 FR Holbrook. *Macrosiphum euphorbiae* [Homoptera: Aphididae] on potato. 7 Jul 1977. USA: Rogers Farm, Stillwater, Maine.
- 395 S Keller (35). Larva, [Hymenoptera]. 10 Aug 1976. Switzerland.
- 839 CSIRO (EM629) ← G Lutton. *Acyrtosiphon kondoi* [Homoptera: Aphididae] on lucerne "condura". 17 Jun 1981. Australia: nr. Cooma, Umerella Station, New South Wales.
- 919 [ARSEF 1661] S Keller (450). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.
- 927 [ARSEF 1660] S Keller (449). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.
- 1146 M Shimazu (F-382). *Brevicoryne brassicae* [Homoptera: Aphididae]. Acc'd 4 Apr 1984. Japan: Shizuoka Prefecture.
- 1660 [ARSEF 927] S Keller (449). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.
- 1661 [ARSEF 919] S Keller (450). [Diptera: Sciaridae]. Nov 1982. Switzerland: Zürich.
- 2504 J Eilenberg (KVL 29). *Acyrtosiphon pisum* [Homoptera: Aphididae]. Apr 1987. Denmark: Karlebo, Zealand.
- 3080 SP Wraight. *Rhopalosiphum padi* [Homoptera: Aphididae]. 22 Jun 1990. USA: irrigated wheat field, Piedmont Organic Produce Farm, Wellington, Colorado.
- 3088 MG Feng (MTRM9001). *Rhopalosiphum maidis* [Homoptera: Aphididae] on late-sown spring grain crop. 31 Jul 1990. USA: Bozeman, Montana.
- 3091 MG Feng (MTRM9004). *Rhopalosiphum maidis* [Homoptera: Aphididae] on late-sown spring grain crop. 7 Aug 1990. USA: Bozeman, Montana.

- 3130 K Hural (GF-2). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. Oct 1990. USA: Game Farm Rd., Ithaca, New York.
- 3136 K Hural (Hoff-1). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Oct 1990. USA: Hoffman field, Catherine, New York.
- 3140 K Hural (Hoff-5). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Oct 1990. USA: Hoffman field, Catherine, New York.
- 3225 P Folker-Hansen (F and 040590). *Bradysia paupera* [Diptera: Sciaridae]. 4 May 1990. Denmark.
- 3226 P Folker-Hansen (I and 080990). *Bradysia paupera* [Diptera: Sciaridae]. 8 Sep 1990. Denmark.
- 5552 KT Hodge. Adult, [Homoptera: Cicadellidae]. 17 Sep 1997. McLean: Eames' Bog.
- 5994 C Nielsen (KVL 98-17). Alate, *Rhopalosiphum padi* [Homoptera: Aphididae] on *Prunus padus*. 25 Sep 1998. Denmark: Copenhagen, Zealand.

Batkoa gigantea (S Keller) Humber

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

-
- 214 S Keller (74). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd Spring 1978. Switzerland.
- 215 S Keller (75). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd Spring 1978. Switzerland.
- 403 [FPMI 768] S Keller (36). *Tipula paludosa* [Diptera: Tipulidae]. 8 Sep 1976. Switzerland.

Batkoa major (Thaxter) Humber

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

-
- 1427 RS Soper (84528-1). [Homoptera: Aphididae]. 28 May 1984. Yugoslavia: plum orchard, Zemun, Belgrade.
- 2936 H Firstencel. *Empoasca fabae* [Homoptera: Cicadellidae]. 5 Jan 1990. USA: laboratory colony, Ithaca, New York.
- 3102 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 13 Sep 1990. USA: Hoffman field # 6G, Catherine, New York.
- 3103 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 4 Sep 1990. USA: laboratory colony, Ithaca, New York.

Batkoa papillata(?) (Thaxter) Humber

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

-
- 7068 MM White (NF-7-W3a). [Diptera: Simuliidae]. Rec'd 16 Oct 2002. Canada: Newfoundland.

Conidiobolus sp.

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. These strains include a heterogeneous assortment of fungi isolated as saprobes and as zoopathogens. Some may represent undescribed new species. Identifications of *Conidiobolus* species are made difficult by the relative lack of taxonomic characters and of any modern taxonomic attention.

Caution: Strains derived from mammalian mycoses should be treated as potentially hazardous; observe handling precautions noted for *Conidiobolus coronatus*.

- 80 RG Kenneth (C.o. 15) or (3081) ← A Uziel. Larva, *Hypera variabilis* [Coleoptera: Curculionidae]. Mar 1976. Israel: alfalfa field, Sedé Eliyahu.
- 81 RG Kenneth (C.o. 10) or (3082) ← A Uziel. Larva, *Hypera variabilis* [Coleoptera: Curculionidae]. Mar 1976. Israel: Sedé Eliyahu.
- 92 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd Musquacook Lake, Musquacook, Maine.
- 93 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd Musquacook Lake, Musquacook, Maine.
- 94 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 7 Jul 1976. USA: west side, 2nd Musquacook Lake, Musquacook, Maine.
- 147 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 26 Jun 1977. USA: Carroll, Maine.
- 148 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 20 Jun 1977. USA: forest, Maine.
- 211 DW Roberts. *Nilaparvata lugens* [Homoptera: Delphacidae]. 27 Mar 1978. India: insectary, Hyderabad, Andhra Pradesh.
- 391 S Keller (21). [Homoptera: Cercopidae]. Rec'd 18 Oct 1979. Switzerland.
- 517 DW Roberts (82380-19). *Nilaparvata lugens* [Homoptera: Delphacidae]. 23 Aug 1980. Malaysia: Bumbong Lima, Icepala Batas, Wellesley Province.
- 522 DW Roberts (82180-7b). *Nilaparvata lugens* [Homoptera: Delphacidae] on leaves. 21 Aug 1980. Malaysia.
- 564 RS Soper (8133-1/BPH-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: insect rearings, Maros Research Center, Maros, Sulawesi Selatan, Celebes.
- 595 RS Soper (81227-2). *Nilaparvata lugens* [Homoptera: Delphacidae]. 27 Feb 1981. Indonesia: Bantul District, Yogyakarta, Java.
- 596 RS Soper (81226-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 26 Feb 1981. Indonesia: Bantul District, Yogyakarta, Java.
- 604 RS Soper (8133-2). *Sogatella furcifera* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: Pangkep Kaba, Sulawesi Selatan, Celebes.
- 605 RS Soper (8133-1). *Nephotettix bipunctata cincticeps* [Homoptera: Cicadellidae]. 3 Mar 1981. Indonesia: insect rearings, Maros Research Center, Maros, Sulawesi Selatan, Celebes.
- 606 RS Soper (8133-1). *Nephotettix bipunctata cincticeps* [Homoptera: Cicadellidae]. 3 Mar 1981. Indonesia: insect rearings, Maros Research Center, Maros, Sulawesi Selatan, Celebes.
- 999 J Aoki (Ent. 45) ← T Kobayashi. [Homoptera: Aphididae]. Jun 1981. Japan: Fuchu, Tokyo Prefecture.
- 1426 RS Soper (8465-1). [Homoptera: Aphididae] on rose. 6 May 1984. Yugoslavia: Plant Protection Institute, Belgrade.
- 1444 M Smith (L05 and 001). Soil/plant detritus. 1984. United Kingdom: marshy area by pool, U. of Keele, Staffordshire, England.
- 1445 M Smith (K13 and 004). Soil/plant detritus. 1984. United Kingdom: turf behind Keele Hall, U. of Keele, Staffordshire, England.
- 1477 [CNPAF 84-04-25-2; CP 167] SM dos Santos. [Orthoptera: Tettigoniidae]. 25 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1485 M Smith (N01 and 141). Soil/plant detritus. 1984. United Kingdom: grazed pasture behind Keele Hall, U. of Keele, Staffordshire, England.
- 1486 M Smith (O08 and 017). Soil/plant detritus. 1984. United Kingdom: wheat field, U. of Keele, Staffordshire, England.
- 1487 M Smith (Q01 and 119). Soil/plant detritus. 1984. United Kingdom: grazed pasture behind Keele Hall, U. of Keele, Staffordshire, England.
- 1488 M Smith (I01 and 020). Soil/plant detritus. 1984. United Kingdom: grazed pasture behind Keele Hall, U. of Keele, Staffordshire, England.
- 1672 GO Poinar ← GM Thomas. *Porcellio* sp. [Isopoda: Oniscoidea]. 5 Jun 1984. USA: California.
- 1967 T Burger. *Schizaphis graminum* [Homoptera: Aphididae]. Aug 1985. USA: laboratory colony, APHIS-PPQ, Niles, Michigan.
- 2130 IL Sivcev (160/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 2 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2147 MA Naves. *Deois* sp. [Homoptera: Cercopidae]. 4 Mar 1986. Brazil: Mato Grosso.
- 2148 MA Naves. *Deois flavopicta* [Homoptera: Cercopidae]. 21 Mar 1986. Brazil: Mato Grosso.
- 2193 [CNPAF 86-5-19; CP 203] SM dos Santos. [Hymenoptera]. 19 May 1986. Brazil: CNPAF, Goiânia, Goiás.
- 2494 J Eilenberg (KVL 15). [Diptera: Anthomyiidae]. 25 Jul 1986. Denmark: Svanholm, Malmöhus.

- 2498 J Eilenberg (KVL 25). *Ptychoptera contaminata* [Diptera: Ptychopteridae]. 25 Aug 1986. Denmark: Kattinge Vig, Roskilde.
- 2672 J Eilenberg (KVL 49). *Delia radicum* [Diptera: Anthomyiidae]. 2 Aug 1988. Denmark: Roskilde, Zealand.
- 2771 GW Riethmacher (C3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 11 Apr 1989. Philippines: La Trinidad, Benguet.
- 2772 GW Riethmacher (C4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 14 Apr 1989. Philippines: La Trinidad, Benguet.
- 2815 GW Riethmacher (C5). *Plutella xylostella* [Lepidoptera: Plutellidae]. 14 Apr 1989. Philippines: La Trinidad, Benguet.
- 2816 GW Riethmacher (C6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 9 Jun 1989. Philippines: La Trinidad, Benguet.
- 2819 SR Sánchez Peña (4-2). Adult:queen, *Solenopsis invicta* [Hymenoptera: Formicidae] soil. 5 Aug 1989. USA: College Station, Texas.
- 2924 CDC (B-4742). Nasal granulomata of sheep. Rec'd 13 Dec 1989. Australia.
- 2925 CDC (B-4741). Nasal granulomata of sheep. Rec'd 13 Dec 1989. Australia.
- 2926 CDC (B-4743). Nasal granulomata of sheep. Rec'd 13 Dec 1989. Australia.
- 2927 CDC (B-4744). Nasal granulomata of sheep. Rec'd 13 Dec 1989. Australia.
- 2928 [UTMB 3109] L Pasarell. *Homo sapiens* [Primates: Hominidae]. Rec'd 18 Sep 1989. USA: Port Arthur, Texas.
- 3208 GW Riethmacher (C4.1a). *Plutella xylostella* [Lepidoptera: Plutellidae]. 16 Oct 1990. Philippines: La Trinidad, Benguet.
- 3383 I Majchrowicz (18). *Aphis fabae* [Homoptera: Aphididae] on bean. 27 Jun 1991. USA: Grandpa's garden, Granger, Washington.
- 3384 I Majchrowicz (25-b). *Myzus persicae* [Homoptera: Aphididae] on potato. 11 Jul 1991. USA: Orchard Farm, Yakima, Washington.
- 3402 MS Goettel (17) ← G Pohl and D Yu. 30 Sep 1991. Canada: Agriculture Canada Research Station, Lethbridge, Alberta.
- 3406 BJ Cochrane ← K Chernov (V). Soil. Rec'd 7 Oct 1991. USA: mowed USF grounds by UPD, Tampa, Florida.
- 3407 BJ Cochrane ← K Chernov (VI). Soil. Rec'd 7 Oct 1991. USA: mowed USF grounds by UPD, Tampa, Florida.
- 3409 BJ Cochrane ← K Chernov (Ruby Mine). Soil. Rec'd 7 Oct 1991. USA: exposed mountainside, Franklin, North Carolina.
- 3763 R Nelson. Jun 1992. Costa Rica.
- 5404 BL Parker (GA-113). *Gargara* sp. [Homoptera: Membracidae] on wild cereal. Jun 1996. USA: Burlington, Vermont.
- 5405 BL Parker (GA-169). *Gargara* sp. [Homoptera: Membracidae] on wild cereal. 17 Aug 1996. Canada: Philipsburg, Québec.
- 5406 BL Parker (GA-169A). *Gargara* sp. [Homoptera: Membracidae] on wild cereal. 17 Aug 1996. Canada: Philipsburg, Québec.
- 5712 RA Humber. From forest litter. 2 May 1998. Republic of Korea: Kangwon National University Forest Plantation, Chuncheon, Kangwon-do.
- 6424 MK Er. 3rd instar larva, *Tipula paludosa* [Diptera: Tipulidae]. 18 Dec 1999. United Kingdom: Grassland for recreation, Northumberland, England.
- 6505 S Gouli and V Gouli (GA-348). From soil. May 1999. USA: Guilford, Vermont.
- 6659 JL Hatting. *Eriosoma lanigerum* [Homoptera: Aphididae] feeding underground on apple tree roots. 24 Jul 2000. South Africa: Oak Valley, Western Cape, Cape Province.
- 7216 [SRCAMB B-157] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.
- 7786 [CEP 184] C López Lastra ← A Toledo. Adult, male, *Oliarus dimidiatus* [Homoptera: Cixiidae] on *Oryza sativa* L., rice crop. 28 Mar 2005. Argentina: Estación experimental Julio Hirschhorn, Los Hornos, Buenos Aires.
- 7942 B Huang (B1). Leaf litter. Nov 2005. USA: Cornell Plantations, Mundy Wildflower Garden, Ithaca, New York.
- 8313 B Huang (GSM3-L-1C1). 7 Oct 2006. USA: Great Smoky Mountains National Park, Tennessee.
- 8314 B Huang (GSM3-L-1C2). Acc'd 26 Jan 2007. USA: Great Smoky Mountains National Park, Tennessee.
- 8429 B Huang (M051114A3). 14 Nov 2005. USA: Cornell Plantations, Ithaca, New York.

Conidiobolus adiaeretus Drechsler
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae

- 451 [CBS 136.57; DS King C-23] ATCC (12589) ← C Drechsler. Plant detritus. Acc'd 28 Apr 1980. USA: Maryland. CULTURE EX TYPE.
- 6377 AA Callaghan (04 and 041) or (62). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Plantation of *Larix kaempferi*, Staffordshire, Keele, England.
- 8320 B Huang (3-litter-1 A). 7 Oct 2006. USA: Great Smoky Mountains National Park, Tennessee.
- 8427 B Huang (M051114A1). Moss. 14 Nov 2005. USA: Cornell Plantations, Ithaca, New York.

Conidiobolus antarcticus Tosi, Caretta & Humber
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae. Mycotaxon 90: 343-347 (2004)

6913 G Caretta and S Tosi. 2 Feb 1999. Antarctica: Kohler Head, Victoria Land. Culture EX TYPE.

Conidiobolus bangalorensis Srinivasan & Thirumalachar
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae

449 [HACC 190; IMI 118284; NRRL 3682] ATCC (16576)
← MC Srinivasan and MJ Thirumalacher. Plant detritus. 1966. India: Bangalore, Karnataka. CULTURE EX TYPE.

Conidiobolus brefeldianus Couch
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae

452 ATCC (28847) ← DS King (C-31) ← CBS (141.39)
← JN Couch. Acc'd 28 Apr 1980. USA: North Carolina. CULTURE EX TYPE.

Conidiobolus coronatus (Costantin) Batko
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae. Major synonyms: *Entomophthora coronata* (Costantin) Kevorkian, *Conidiobolus villosus* Martin.

Caution: This species is known to cause human mycoses that are primarily tropical in occurrence and confined to the nasal passages and adjacent superficial areas. Avoid inhalation of conidia and do not handle cultures without gloves if unhealed cuts or abrasions are present. This species has low pathogenicity for mammals and should be relatively safe if handled with good microbiological technique.

205 ATCC (28691) ← DS King (75). Plant detritus. Rec'd 9 Mar 1978. USA.

206 [IPLB 951.72] ATCC (32867) ← F Mariat. *Homo sapiens* [Primates: Hominidae]. Rec'd 9 Mar 1978. Nigeria.

274 BE Tucker (171). Soil from roots under *Helosis* sp. [Balanophoraceae]. Acc'd 27 Mar 1979. Costa Rica: 9.783°N lat, 83.999°W long, elev. 1950 ft, Casa Mata.

349 RS Soper. *Nilaparvata lugens* [Homoptera: Delphacidae]. 16 Feb 1979. Australia: Cairns, Queensland.

405 DW Roberts. *Nilaparvata lugens* [Homoptera: Delphacidae]. Nov 1979. Philippines: IRRRI greenhouse, Lecheria, Calamba, Laguna.

406 DW Roberts. *Nilaparvata lugens* [Homoptera: Delphacidae]. Nov 1979. Philippines: IRRRI greenhouse, Parian, Calamba, Laguna.

418 DW Roberts (A). *Nilaparvata lugens* [Homoptera: Delphacidae]. Nov 1979. Philippines: IRRRI greenhouse, Lecheria, Calamba, Laguna.

419 DW Roberts (B). [Homoptera: Cicadellidae]. Nov 1979. Philippines: IRRRI greenhouse, Lecheria, Calamba, Laguna.

421 DW Roberts (E). [Homoptera: Cicadellidae]. Nov 1979. Philippines: IRRRI greenhouse, Parian, Calamba, Laguna.

422 DW Roberts (F). [Homoptera: Cicadellidae]. Nov 1979. Philippines: IRRRI greenhouse, Lecheria, Calamba, Laguna.

471 [DAR 30604] J Walker. Casing soil of *Agaricus brunnescens* [Hymenomycetes: Agaricales]. Apr 1978. Australia: R.D. 67, nr. Rydalmere, McGrath's Hill, New South Wales.

511 DW Roberts (81380-4). *Nilaparvata lugens* [Homoptera: Delphacidae]. 13 Aug 1980. Philippines: IRRRI, Los Baños, Manila.

512 DW Roberts (82180-4a). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Aug 1980. Malaysia.

514 DW Roberts (82180-7c). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Aug 1980. Malaysia.

520 DW Roberts (82380-20). *Nephotettix bipunctata cincticeps* [Homoptera: Cicadellidae]. 23 Aug 1980. Malaysia: cages, Bumbong Lima, Icepala Batas, Wellesley Province.

523 DW Roberts (82380-22). *Nilaparvata lugens* [Homoptera: Delphacidae]. 23 Aug 1980. Malaysia: cages, Bumbong Lima, Icepala Batas, Wellesley Province.

524 DW Roberts (82180-4c). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Aug 1980. Malaysia.

525 DW Roberts (82880-11). *Nilaparvata lugens* [Homoptera: Delphacidae]. 28 Aug 1980. Thailand: rearing cage, Chainat Rice Exp. Sta., N of Bangkok, Khlong Luang.

528 DW Roberts (82980-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 28 Aug 1980. Thailand: NBRC cages.

563 RS Soper (8133-1/BPH-2). *Nilaparvata lugens* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: insect rearings, Maros Research Center, Maros, Sulawesi Selatan, Celebes.

565 RS Soper (8133-1/BPH-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: insect rearings, Maros Research Center, Maros, Sulawesi Selatan, Celebes.

567 RS Soper (81224-2). [Araneida]. 24 Feb 1981. Indonesia: Diski Village, Medan District, Sumatera Utara.

597 RS Soper (8133-1). *Nephotettix bipunctata cincticeps* [Homoptera: Cicadellidae]. 3 Mar 1981. Indonesia: insect rearings, Maros Research Center, Maros, Sulawesi Selatan, Celebes.

655 DW Roberts (102381-6). *Nilaparvata lugens* [Homoptera: Delphacidae]. 23 Oct 1981. PR China: Guanzhou, Kwon Tung.

- 997 J Aoki (Ent. 11) ← M Shimazu. *Nilaparvata lugens* [Homoptera: Delphacidae]. Jul 1976. Japan: Chikugo, Fukuoka Prefecture.
- 1147 LI Rivera-Vargas. *Volvariella volvacea* [Agaricales]. 1984. USA: Mayaguez, Puerto Rico.
- 1572 S Keller (490). *Ceutorhynchus napi* [Coleoptera: Curculionidae]. 14 Jun 1984. Switzerland.
- 1573 S Keller (491). *Ceutorhynchus napi* [Coleoptera: Curculionidae]. 14 Jun 1984. Switzerland.
- 1574 S Keller (493). *Ceutorhynchus napi* [Coleoptera: Curculionidae]. 14 Jun 1984. Switzerland.
- 1575 S Keller (494). *Ceutorhynchus napi* [Coleoptera: Curculionidae]. 14 Jun 1984. Switzerland.
- 1736 N Wilding (4). *Myzus persicae* [Homoptera: Aphididae] isolate (Wilding # 3) passed through *Galleria mellonella* [Lepidoptera: Pyralidae] larva. Feb 1969. Laboratory manipulation.
- 1737 N Wilding (5). *Myzus persicae* [Homoptera: Aphididae] isolate (Wilding # 3) passed through *Galleria mellonella* [Lepidoptera: Pyralidae] larva. Feb 1969. Laboratory manipulation.
- 1738 [ARSEF 96 (lost)] N Wilding (32) ← C Dedryver. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 3 Sep 1984. United Kingdom: laboratory colony, Rothamsted Experimental Station, Hertfordshire, England.
- 1876 DG Holdom (2). *Nilaparvata lugens* [Homoptera: Delphacidae]. 8 Mar 1985. Indonesia: Cikampek, Jawa Barat, Java.
- 1884 [CP 173] DW Roberts ← J Brunes. *Mocis latipes* [Lepidoptera: Noctuidae]. 31 Jan 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2715 J Newton ← M Masri. Male, *Equus ferus caballus* [Perissodactyla: Equidae]. Mar 1989. USA: Baton Rouge, Louisiana.
- 2730 GW Riethmacher (C1). *Plutella xylostella* [Lepidoptera: Plutellidae]. 6 Apr 1989. Philippines: La Trinidad, Benguet.
- 2812 MG Feng (MD8904). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 2813 MG Feng (MD8905). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 2814 MG Feng (MD8906). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 3087 M Wheeler ← RP Korf. [Dacrymycetales]. 12 Sep 1990. USA: Lloyd/Cornell-Ringwood Nat. Pres., Ithaca, New York.
- 3099 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 20 Sep 1990. USA: Hoffman field # 4B, Catherine, New York.
- 3109 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 25 Sep 1990. USA: Hoffman field # 4E, Catherine, New York.
- 3222 LS Osborne. *Frankliniella occidentalis* [Thysanoptera: Thripidae]. Rec'd 14 Mar 1991. USA: greenhouse, IFAS, Univ. of Florida, Apopka, Florida.
- 3379 K Ostrovska (4) ← PG Lawlor. *Lutzomyia* sp. [Diptera: Psychodidae]. Jul 1991. Guatemala: Tical, Petén.
- 3414 K Ostrovska (21) ← MV Herrero. Female, *Lutzomyia sordelli* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 3415 K Ostrovska (22) ← MV Herrero. Female, *Lutzomyia sordelli* [Diptera: Psychodidae]. 22 Sep 1991. Costa Rica: Santa Rosa National Park, Guanacaste.
- 4797 [INIA 2193] J Eilenberg (KVL 614). *Epinotia aporema* [Lepidoptera: Tortricidae]. 4 May 1994. Uruguay.
- 5162 S Gouli (GP-69). Larva, Phylum Arthropoda, Class Insecta. 24 May 1995. USA: R. Angellilo's sugar maple stand, North Field, Vermont.
- 6379 AA Callaghan (04 and 012) or (45). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Plantation of *Larix kaempferi*, Staffordshire, Keele, England.
- 6512 S Gouli and V Gouli (GA-361). [Thysanoptera: Thripidae] on *Tagetes erecta* L., marigold. 3 Oct 1999. USA: Burlington, Vermont.
- 7010 M Greif (EIAW 369). [Araneida]. 24 Aug 2001. Canada: Amisk Lake trail, Elk Island National Park, Alberta.
- 7011 M Greif (EIAW 389). [Hymenoptera: Formicidae]. 31 Aug 2001. Canada: Amisk Lake trail, Elk Island National Park, Alberta.
- 7012 M Greif (EIAW 400). [Opiliones:Palpatores]. 31 Aug 2001. Canada: Amisk Lake trail, Elk Island National Park, Alberta.
- 7013 M Greif (EIAW 410). [Opiliones:Palpatores]. 11 Sep 2001. Canada: Amisk Lake trail, Elk Island National Park, Alberta.
- 7203 [CEP 062] C López Lastra. *Delphacodes haywardii* [Homoptera: Delphacidae] reared on *Hordeum vulgare* L., barley. 19 Aug 2003. Argentina: greenhouse at CEPAVE, La Plata, Buenos Aires.
- 7922 KT Hodge. Isolated from unidentified mushroom growing on horse dung. 26 Sep 2005. USA: Barn, Pine Tree Road, Ithaca, New York.
- 8023 EC Bernard (CRSM). [Collembola] isolated from live soil arthropod extraction baited with yeast pellets. 3 Apr 2006. USA: Great Smoky Mountains National Park, Enloe Cemetery, Swain County, North Carolina.
- 8455 RB Rosengaus. Reproductives, *Nasutitermes corniger* [Isoptera: Termitidae] from multiple founding association. Rec'd 24 May 2007.
- 8715 [AFTOL 137; NRRL 28638] Rec'd 23 Jun 2008.
- 9295 [ERL 1600] VS Gouli (Thr-08-E1). Isolated from soil sample. 2008. USA: Vermont.

- 9296 [ERL 1601] VS Gouli (Thr-08-E2). Isolated from soil sample. 2008. USA: Vermont.
- 9913 [ERL 1746] S Gouli (Thr.-09-1) and V Gouli. 2010. USA: Vermont.
- 9914 [ERL 1747] S Gouli and V Gouli (Thr.-09-2). [Thysanoptera: Thripidae]. 2010. USA: Vermont.
- 9940 C Pérez Martínez (Lyc0 1). *Lycoriella ingenua* [Diptera: Sciaridae]. Feb 2005. Mexico: Hongos Rioxal, S.A., Veracruz.
- 9941 C Pérez Martínez (Lyc0 4). *Lycoriella ingenua* [Diptera: Sciaridae]. Feb 2005. Mexico: Hongos Rioxal, S.A., Veracruz.
- 9942 C Pérez Martínez (Lyc0 5). *Lycoriella ingenua* [Diptera: Sciaridae]. Feb 2005. Mexico: Hongos Rioxal, S.A., Veracruz.

Conidiobolus firmipilleus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 2731 GW Riethmacher (C2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La Trinidad, Benguet.
- 6384 AA Callaghan (08 and 026) or (53). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Arable field, Staffordshire, Keele, England.

Conidiobolus heterosporus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 6386 AA Callaghan (04 and 036). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Plantation of *Larix kaempferi*, Staffordshire, Keele, England.

Conidiobolus iuxtagenitus Waters & Callaghan

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 6378 [ATCC 76115] AA Callaghan (04 and 023) or (55). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Plantation of *Larix kaempferi*, Staffordshire, Keele, England. CULTURE EX TYPE.
- 7944 B Huang (L051115B8). Leaf litter. Nov 2005. USA: Cornell Plantations, Mundy Wildflower Garden, Ithaca, New York.

Conidiobolus lamprauges Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 2338 CC Brown. 15 yr. old Arabian m, *Equus ferus caballus* [Perissodactyla: Equidae]. Dec 1986. USA: Baton Rouge, Louisiana.
- 6361 G St-Germain (LSPQ 0467). Rec'd 24 Nov 1999. West Indies: Trinidad and Tobago.

- 6385 AA Callaghan (08 and 229). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Arable field, Staffordshire, Keele, England.

Conidiobolus megalotocus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 8428 B Huang (S051114A2). Isolated from soil sample. 14 Nov 2005. USA: Cornell Plantations, Ithaca, New York.

Conidiobolus* nr. *coronatus (Costantin) Batko

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. These strains produce secondary microconidia; their morphologies match the description of *C. coronatus* in every way except that no villose conidia have been observed. Positive identification as *C. coronatus* requires observation of villose conidia.

Caution: All precautions about handling *C. coronatus* should be observed with these strains.

- 598 RS Soper (8135). *Nilaparvata lugens* [Homoptera: Delphacidae]. 5 Mar 1981. Indonesia: greenhouse, Bogor, Jawa Barat, Java.
- 599 RS Soper (81227-4). *Nilaparvata lugens* [Homoptera: Delphacidae]. 27 Feb 1981. Indonesia: Ngaglik Village, Sleman District, Yogyakarta, Java.
- 600 RS Soper (81227-3). *Nilaparvata lugens* [Homoptera: Delphacidae]. 27 Feb 1981. Indonesia: Pendo Wo Har Djo, Sleman District, Yogyakarta, Java.
- 602 RS Soper (8133-2). *Sogatella furcifera* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: Pangkep Kaba, Sulawesi Selatan, Celebes.
- 1742 DW Roberts (26102a) and MC Rombach. *Nilaparvata lugens* [Homoptera: Delphacidae]. 26 Oct 1984. India: greenhouse, All India Coop. Rice Inv. Project, Hyderabad, Andhra Pradesh.
- 1743 DW Roberts (26104) and MC Rombach. *Nilaparvata lugens* [Homoptera: Delphacidae]. 26 Oct 1984. India: greenhouse, All India Coop. Rice Inv. Project, Hyderabad, Andhra Pradesh.

Conidiobolus obscurus (Hall & Dunn) Remaudière &

S Keller

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. Major synonym: *Entomophthora thaxteriana*

- 74 RG Kenneth (3043) ← ATCC (24418) and CBS (182.60) ← I Hall. *Therioaphis maculata* [Homoptera: Aphididae] on *Medicago sativa*. Dec 1954. USA: Lakeview, California. Culture presumably EX TYPE.
- 97 [CSIRO EM529] N Wilding (6) ← C Dedryver. *Metopolophium dirhodum* [Homoptera: Aphididae]. Acc'd 20 Nov 1978. France: nr. Rennes, Le Rheu, Ille-et-Vilaine.

- 121 [IPLB 20] JP Latgé and G Remaudière. *Uroleucon* sp. [Homoptera: Aphididae] on *Solidago* sp. [Asteraceae]. 25 Aug 1976. Canada: Chute aux Galets, Québec.
- 122 [IPLB 21] JP Latgé and G Remaudière. *Uroleucon* sp. [Homoptera: Aphididae] on *Solidago* sp. [Asteraceae]. 25 Aug 1976. Canada: Chute aux Galets, Québec.
- 124 [IPLB 54] JP Latgé and G Remaudière. *Aphis* sp. [Homoptera: Aphididae] on *Cornus* sp. [Cornaceae]. 26 Aug 1976. Canada: Saint-Gédéon, Québec.
- 133 [ARSEF 355; CSIRO EM543; IPLB 542] G Remaudière ← JP Latgé. *Aphis armata* [Homoptera: Aphididae] on *Digitalis purpurea*. 26 Jul 1974. France: Le Rosskopf, Moselle.
- 182 FR Holbrook. *Macrosiphum euphorbiae* [Homoptera: Aphididae]. 10 Aug 1977. USA: Maine.
- 243 I Majchrowicz. [Homoptera: ?Aphididae]. Rec'd 6 Sep 1978. Poland: Szczecin.
- 354 [ARSEF 824; CSIRO EM535] RJ Milner. *Acyrtosiphon kondoi* [Homoptera: Aphididae]. May 1978. Australia: Glen Innes, New South Wales.
- 355 [ARSEF 133; IPLB 542] CSIRO (EM543) ← JP Latgé. *Aphis armata* [Homoptera: Aphididae] on *Digitalis purpurea*. 26 Jul 1974. France: Le Rosskopf, Moselle.
- 434 [FPMI 667] JP Latgé ← IPLB (722) or (542 (=ARSEFs 133 & 355)). [Homoptera: Aphididae]. Rec'd 7 Mar 1980. France.
- 824 [ARSEF 354; CSIRO EM535] RJ Milner. *Acyrtosiphon kondoi* [Homoptera: Aphididae]. May 1978. Australia: Glen Innes, New South Wales.
- 832 CSIRO (EM566) ← PJ Cameron. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 25 May 1979. Laboratory manipulation.
- 834 CSIRO (EM591) ← D Crawford. *Acyrtosiphon pisum* [Homoptera: Aphididae] on lucerne. 25 Jun 1980. Australia: Riverina Agricultural College, Wagga Wagga, New South Wales.
- 1131 [J Aoki Ent. 9; ARSEF 995 (deaccessioned)] M Shimazu (F-25). *Rhopalosiphum padi* [Homoptera: Aphididae]. Apr 1976. Japan: Chikugo, Fukuoka Prefecture.
- 1741 N Wilding (90). *Acyrtosiphon pisum* [Homoptera: Aphididae]. Jan 1979. Laboratory manipulation.
- 3089 MG Feng (MTRM9002). *Rhopalosiphum maidis* [Homoptera: Aphididae] on late-sown spring grain crop. 31 Jul 1990. USA: Bozeman, Montana.
- 3090 MG Feng (MTRM9003). *Rhopalosiphum maidis* [Homoptera: Aphididae] on late-sown spring grain crop. 31 Jul 1990. USA: Bozeman, Montana.
- 3092 MG Feng (MTMD9002). *Metopolophium dirhodum* [Homoptera: Aphididae] on late-sown spring grain crop. 17 Aug 1990. USA: Bozeman, Montana.
- 3132 K Hural (GF-4). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. Oct 1990. USA: Game Farm Rd., Ithaca, New York.
- 3133 K Hural (GF-5). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. Oct 1990. USA: Game Farm Rd., Ithaca, New York.
- 3134 K Hural (GF-6). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. Oct 1990. USA: Game Farm Rd., Ithaca, New York.
- 3135 K Hural (GF-7). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. Oct 1990. USA: Game Farm Rd., Ithaca, New York.
- 3137 K Hural (Hoff-2). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Oct 1990. USA: Hoffman field, Catherine, New York.
- 3138 K Hural (Hoff-3). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Oct 1990. USA: Hoffman field, Catherine, New York.
- 3139 K Hural (Hoff-4). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Oct 1990. USA: Hoffman field, Catherine, New York.
- 3141 K Hural (Hoff-6). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Oct 1990. USA: Hoffman field, Catherine, New York.
- 5992 C Nielsen (KVL 98-13). Alate, *Rhopalosiphum padi* [Homoptera: Aphididae] on *Prunus padus*. 25 Sep 1998. Denmark: Copenhagen, Zealand.
- 7217 [SRCAMB G-161] V Likhovidov. Rec'd 29 Sep 2003.
- 9536 [SRCAMB VL-1704; VIZR 47] V Likhovidov. Rec'd 14 Aug 2008. Field Collection Number F-154.

Conidiobolus osmodes Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 79 [FPMI 695] RG Kenneth (3) or (3080) ← A Uziel. Larva, *Hypera variabilis* [Coleoptera: Curculionidae]. Mar 1976. Israel: Sedé Eliyahu.
- 193 [ARSEF 447; ATCC 12590; CBS 155.56; RG Kenneth 3123; DS King M-7] C Drechsler. Decaying vegetable detritus. 20 Dec 1950. USA: Laplace, Louisiana. CULTURE EX TYPE.
- 447 [ARSEF 193 (lost); CBS 155.56; RG Kenneth 3123; DS King M-7] ATCC (12590) ← C Drechsler. Decaying vegetable detritus. 20 Dec 1950. USA: Laplace, Louisiana. CULTURE EX TYPE.

Conidiobolus osmodes(?) Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 5993 C Nielsen (KVL 98-15). Alate, *Rhopalosiphum padi* [Homoptera: Aphididae] on *Prunus padus*. 25 Sep 1998. Denmark: Copenhagen, Zealand.

Conidiobolus paulus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 450 [CBS 140.57] ATCC (12942) ← C Drechsler. Plant detritus. 18 Nov 1954. USA: Park Falls, Wisconsin. CULTURE EX TYPE.

Conidiobolus pseudapiculatus S Keller

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. This species is morphologically similar to *Batkoa apiculata* (q.v.) in the size and shape of its primary conidia and production of stout rhizoids with a discoid holdfast.

- 1662 [IPLB 698] S Keller (478) ← JP Latgé. Rec'd 16 Oct 1984. Location not specified.
- 1664 [IPLB 877] S Keller (480) ← JP Latgé. Rec'd 16 Oct 1984. Location not specified.
- 1665 [IPLB 1027] S Keller (482) ← JP Latgé. Rec'd 16 Oct 1984. Location not specified.
- 2493 J Eilenberg (KVL 6). *Psila rosae* [Diptera: Psilidae]. 25 May 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2496 J Eilenberg (KVL 11). *Psila rosae* [Diptera: Psilidae]. 2 Jun 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2497 J Eilenberg (KVL 21). *Psila rosae* [Diptera: Psilidae]. 11 Aug 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2502 J Eilenberg (KVL 24). *Psila rosae* [Diptera: Psilidae]. Aug 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.

Conidiobolus pumilus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 453 [CBS 152.56; DS King C-32] ATCC (12584) ← C Drechsler. Plant detritus. 28 Feb 1952. USA: Arlington, Virginia. CULTURE EX TYPE.
- 6383 AA Callaghan (01 and 020) or (35). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Pasture, Staffordshire, Keele, England.

Conidiobolus rhyosporus Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 448 [CBS 157.56] ATCC (12588) ← C Drechsler. Decaying vegetable detritus. Acc'd 28 Apr 1980. USA: Laplace, Louisiana. CULTURE EX TYPE.

Conidiobolus stromoideus Srinivasan & Thirumalachar

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae

- 8430 B Huang (L051115B3). Nov 2005. USA: Ithaca, New York.

Conidiobolus thromboides Drechsler

[Entomophthoromycotina: Entomophthorales]

Ancylistaceae. Major synonyms: *Entomophthora virulenta* Hall & Dunn, *Entomophthora pyriformis* Thoizon, *Entomophthora destruens* Weiser & Batko.

- 2 [ARSEF 3364; CSIRO EM570] FR Holbrook. *Myzus persicae* [Homoptera: Aphididae]. May 1972. USA:

greenhouse, Aroostook State Farm, Presque Isle, Maine.

- 5 RS Soper. Adult, [Diptera: Heliomyzidae]. 31 Jul 1972. USA: Aroostook State Farm, Presque Isle, Maine.
- 15 [ARSEF 115, 208, 3360, 3361; CBS 183.60; CSIRO EM510, EM571; RG Kenneth 3022, 3035; NRRL 2780] ATCC (14270) ← I Hall. *Therioaphis maculata* [Homoptera: Aphididae] on *Medicago sativa*. Rec'd 2 Oct 1972. USA: California. CULTURE EX TYPE of *Entomophthora virulenta*.
- 22 RS Soper ← JE Henry. [Orthoptera: Acrididae]. 1973. USA: Bozeman, Montana.
- 29 RS Soper ← I Hall. *Therioaphis maculata* [Homoptera: Aphididae]. Acc'd 19 Apr 1982. USA: California.
- 39 RS Soper. *Myzus persicae* [Homoptera: Aphididae]. 12 Mar 1973. USA: State of Maine Potato Field, Homestead, Florida.
- 40 [ARSEF 3362; RG Kenneth 3024] *Macrosiphum euphorbiae* [Homoptera: Aphididae]. 1973. USA: Aroostook State Farm, Presque Isle, Maine.
- 41 [ARSEF 3359; RG Kenneth 3023] *Myzus persicae* [Homoptera: Aphididae]. Aug 1974. USA: Aroostook State Farm, Presque Isle, Maine.
- 42 [ARSEF 117 (lost); RG Kenneth 3025] N Wilding (3). *Aphis fabae* [Homoptera: Aphididae]. Jul 1973. United Kingdom: field collection, Bedfordshire, England.
- 57 RS Soper. *Myzus persicae* [Homoptera: Aphididae]. 29 Aug 1975. USA: Rogers Farm, Stillwater, Maine.
- 58 [Homoptera: Aphididae]. 18 May 1975. Commonwealth of Independent States.
- 59 [Homoptera: Aphididae]. 25 Jul 1975. Commonwealth of Independent States.
- 63 [CSIRO EM557] *Myzus persicae* [Homoptera: Aphididae]. 27 Jul 1975. Commonwealth of Independent States.
- 64 27 Jul 1975. Commonwealth of Independent States.
- 70 [ARSEF 3363; IPLB 4] G Remaudière ← R Krejzova. *Culex pipiens pipiens* [Diptera: Culicidae]. Acc'd Feb 1978. Czech Republic.
- 73 [CSIRO EM534; FPMI 28] RG Kenneth (3040) ← ATCC (24419) ← DM MacLeod ← G Thoizon. *Rhopalosiphum insertum* [Homoptera: Aphididae]. Rec'd 18 Jan 1976. France: Val-de-Marne, La Varenne.
- 83 [CSIRO EM551, EM572] RG Kenneth (E.a. 38) or (3086) ← A Uziel. *Aphis gossypii* [Homoptera: Aphididae] on pomegranate. 1976. Israel: Sedé Eliyahu.
- 84 [ARSEF 85] I Majchrowicz (14 10.6). Reisolate of ARSEF 22. Rec'd 6 Jul 1976. Laboratory manipulation.

- 85 [ARSEF 84] I Majchrowicz (14 10.6). Reisolate of ARSEF 22. Rec'd 6 Jul 1976. Laboratory manipulation.
- 86 [ARSEF 87] I Majchrowicz (17 16.6). [Diptera]. Sep 1974. Poland: Wielkopolski National Park.
- 87 [ARSEF 86] I Majchrowicz (17 16.6). [Diptera]. Sep 1974. Poland: Wielkopolski National Park.
- 99 N Wilding (8) ← EG Voronina. *Myzus persicae* [Homoptera: Aphididae]. 1963. Commonwealth of Independent States: St. Petersburg, Russia.
- 100 [CSIRO EM552, EM573] N Wilding (9) ← EG Voronina. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 1963. Commonwealth of Independent States.
- 101 [ARSEF 1733] N Wilding (1). *Cavariella theobaldi* [Homoptera: Aphididae]. 20 Sep 1968. United Kingdom: laboratory colony, Rothamsted Experimental Station, Hertfordshire, England.
- 102 [ARSEF 1734, 363; CSIRO EM503] N Wilding (2). *Cavariella theobaldi* [Homoptera: Aphididae]. 20 Sep 1968. United Kingdom: laboratory colony, Rothamsted Experimental Station, Hertfordshire, England.
- 115 [ARSEF 15, 208, 3360, 3361; CBS 183.60; CSIRO EM510, EM571; RG Kenneth 3022, 3035; NRRL 2780] ATCC (14270) ← I Hall. *Therioaphis maculata* [Homoptera: Aphididae] on *Medicago sativa*. Acc'd 18 Dec 1987. USA: California. CULTURE EX TYPE of *Entomophthora virulenta*.
- 120 [IPLB 19] JP Latgé and G Remaudière. *Uroleucon* sp. [Homoptera: Aphididae] on *Solidago* sp. [Asteraceae]. 25 Aug 1976. Canada: Chute aux Galets, Québec.
- 194 I Ben-Ze'ev (38). *Aphis gossypii* [Homoptera: Aphididae] on pomegranate tree. Apr 1976. Israel: Sedé Eliyahu.
- 208 [ARSEF 115, 15, 3360, 3361; ATCC 14270; CBS 183.60; CSIRO EM510, EM571; RG Kenneth 3022, 3035; NRRL 2780] G Hartmann ← I Hall. *Therioaphis maculata* [Homoptera: Aphididae] on *Medicago sativa*. Rec'd Mar 1978. USA: California. CULTURE EX TYPE of *Entomophthora virulenta*.
- 242 I Majchrowicz. *Aphis fabae* [Homoptera: Aphididae] on sugar beet. Rec'd 6 Sep 1978. Poland: Szczecin.
- 244 I Majchrowicz. *Aphis fabae* [Homoptera: Aphididae] on sugar beet. Rec'd 6 Sep 1978. Poland: Szczecin.
- 245 I Majchrowicz. *Aphis fabae* [Homoptera: Aphididae] on sugar beet. Rec'd 6 Sep 1978. Poland: Szczecin.
- 246 I Majchrowicz. *Aphis fabae* [Homoptera: Aphididae] on sugar beet. Rec'd 6 Sep 1978. Poland: Szczecin.
- 247 I Majchrowicz. *Aphis fabae* [Homoptera: Aphididae] on sugar beet. Rec'd 6 Sep 1978. Poland: Szczecin.
- 248 I Majchrowicz ← EG Voronina. [Homoptera: Aphididae]. 25 Jul 1978. Commonwealth of Independent States.
- 249 I Majchrowicz ← EG Voronina. [Homoptera: Aphididae]. 25 Jul 1978. Commonwealth of Independent States.
- 250 I Majchrowicz ← EG Voronina. [Homoptera: Aphididae]. 25 Jul 1978. Commonwealth of Independent States.
- 363 [ARSEF 102, 1734] CSIRO (EM503) ← N Wilding (2). *Cavariella theobaldi* [Homoptera: Aphididae]. Acc'd 27 Jul 1979. United Kingdom: laboratory colony, Rothamsted Experimental Station, Hertfordshire, England.
- 630 I Majchrowicz (106). *Aphis fabae* [Homoptera: Aphididae]. 16 Jul 1981. Poland: Gumience, Szczecin.
- 631 I Majchrowicz (107). *Aphis fabae* [Homoptera: Aphididae]. 16 Jul 1981. Poland: Szczecin.
- 632 I Majchrowicz (110). *Aphis fabae* [Homoptera: Aphididae]. 25 Jul 1981. Poland: Gryfino, Szczecin.
- 633 I Majchrowicz (109). *Aphis fabae* [Homoptera: Aphididae]. 23 Jul 1981. Poland: Stanpanel.
- 634 I Majchrowicz (111). *Aphis fabae* [Homoptera: Aphididae]. 27 Jul 1981. Poland: Szczecin.
- 635 I Majchrowicz (108). *Aphis fabae* [Homoptera: Aphididae]. 18 Jul 1981. Poland: Szczecin.
- 649 JS Ferguson. *Myzus persicae* [Homoptera: Aphididae] on potato (*Solanum tuberosum*). 7 Aug 1981. USA: Arlington Experimental Farm, Columbia County, Wisconsin.
- 1006 J Aoki (Ent. 15) ← H Tomiyama. [Homoptera: Aphididae]. Nov 1976. Japan: Fuchu, Tokyo Prefecture.
- 1733 [ARSEF 101] N Wilding (1). *Cavariella theobaldi* [Homoptera: Aphididae]. 20 Sep 1968. United Kingdom: laboratory colony, Rothamsted Experimental Station, Hertfordshire, England.
- 1734 [ARSEF 102, 363; CSIRO EM503] N Wilding (2). *Cavariella theobaldi* [Homoptera: Aphididae]. 20 Sep 1968. United Kingdom: laboratory colony, Rothamsted Experimental Station, Hertfordshire, England.
- 1735 N Wilding (8). *Aphis fabae* [Homoptera: Aphididae]. Jul 1973. United Kingdom: Woburn Farm, Bedfordshire, England.
- 2828 MG Feng (MD8903). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 2829 MG Feng (MD8907). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 2849 MG Feng (MD8902). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 2850 MG Feng (MD8908). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 21 Jul 1989. USA: Parma, Idaho.
- 2914 LL Hotz. *Diuraphis tritici* [Homoptera: Aphididae]. Rec'd 17 Nov 1989. USA: mixed field collection from Bozeman and Mocassin, Montana.
- 2955 MS Goettel. *Schizaphis graminum* [Homoptera: Aphididae]. 25 Sep 1989. Canada: Writing-on-Stone Prov. Park, Warner County, Alberta.

- 3129 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 28 Sep 1990. USA: Hoffman field # 6B, Catherine, New York.
- 3359 [ARSEF 41] Acc'd 31 Jul 1991. Location not specified. ARSEF 41 resting spores stored at 4°C on 14 May 1977 were inoculated onto plates on 17 July 1991 and accessioned as ARSEF 3359.
- 3360 [ARSEF 115] Acc'd 31 Jul 1991. Location not specified. ARSEF 115 resting spores stored at 4°C on 23 March 1977 were inoculated onto plates on 17 July 1991 and accessioned as ARSEF 3360.
- 3361 [ARSEF 15] Acc'd 31 Jul 1991. Location not specified. ARSEF 15 resting spores stored at 4°C on 9 July 1975 were inoculated onto plates on 17 July 1991 and accessioned as ARSEF 3361.
- 3362 [ARSEF 40] Acc'd 31 Jul 1991. Location not specified. ARSEF 40 resting spores stored at 4°C on 31 January 1977 were inoculated onto plates on 17 July 1991 and accessioned as ARSEF 3362.
- 3363 [ARSEF 70] Acc'd 31 Jul 1991. Location not specified. ARSEF 70 resting spores stored at 4°C from 25 March – 27 April 1976 were inoculated onto plates on 17 July 1991 and accessioned as ARSEF 3363.
- 3364 [ARSEF 2] Acc'd 31 Jul 1991. Location not specified. ARSEF 2 resting spores stored at 4°C from 16 December – 13 January 1974 were inoculated onto plates on 17 July 1991 and accessioned as ARSEF 3364.
- 4968 J Hatting (A). *Diuraphis noxia* [Homoptera: Aphididae]. Aug 1995. South Africa: Bethlehem, Orange Free State.
- 6000 Rec'd 3 Dec 1998.
- 6001 Rec'd 3 Dec 1998.
- 6381 AA Callaghan (04 and 037) or (42). From the top 3 cm of litter and soil. Rec'd 20 Dec 1999. United Kingdom: Plantation of *Larix kaempferi*, Staffordshire, Keele, England.
- 6662 M Shternshis. *Acyrthosiphon pisum* [Homoptera: Aphididae]. 1981. Russian Federation: Novosibirsk Region.
- 7209 AE Hajek (03 NY 7-3-1). *Aphis glycines* [Homoptera: Aphididae]. 7 Aug 2003. USA: Field number 3, North Rose, New York.
- 7210 AE Hajek (03 NY 7-3-2). *Aphis glycines* [Homoptera: Aphididae]. 7 Aug 2003. USA: Field number 3, North Rose, New York.
- 7211 AE Hajek (03 NY 7-3-3). *Aphis glycines* [Homoptera: Aphididae]. 7 Aug 2003. USA: Field number 3, North Rose, New York.
- 7215 [SRCAMB B-156] V Likhovidov ← BA Borisov. Rec'd 29 Sep 2003.

***Entomophaga* sp.**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 393 [FPMI 770] S Keller (114). Larva, [Lepidoptera]. Rec'd 27 May 1980. Switzerland.
- 1126 DW Roberts (020184-2A). *Nephotettix bipunctata cincticeps* [Homoptera: Cicadellidae]. 2 Jan 1984. Philippines: IRRI, Los Baños, Manila.
- 1230 [CNPAF 84-04-09-1B; CP 130] DW Roberts. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 9 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1881 DW Roberts (110485-2) and MC Rombach. *Nilaparvata lugens* [Homoptera: Delphacidae] on cacao. 11 Apr 1985. Solomon Islands: nr. Honiara, Guadalcanal.

***Entomophaga asiatica* Humber, Soper & Shimazu in**

Humber (sp. nov., unpublished)

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.

- 1393 RS Soper (84627-6). [Orthoptera: Acrididae]. 27 Jun 1984. Japan: nr. Tsuruga, Fukui Prefecture.
- 1659 M Shimazu (F-457) and RS Soper. *Parapodisma* sp. [Orthoptera: Acrididae]. Jun 1984. Japan: Fukui Prefecture.

***Entomophaga aulicae* (Reichardt in Bail) Humber**

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains will grow as wall-less protoplasts in liquid tissue culture media or as walled hyphae on solid culture media.

- 51 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 12.4 mi from Rt. 11/159 in Patten, Shin Pond, Maine.
- 164 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1977. USA: forest-lower, nr. Carroll, Maine.
- 165 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. Jul 1977. USA: Sherman, Maine.
- 166 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 14 Jul 1977. USA: forest-lower, nr. Carroll, Maine.
- 167 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 14 Jul 1977. USA: forest-upper, nr. Carroll, Maine.
- 168 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 14 Jul 1977. USA: forest-upper, nr. Carroll, Maine.
- 172 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. Jul 1977. USA: forest-lower, Shin Pond, Maine.

- 198 [ARSEF ?998; FPMI 707] RG Kenneth (3136) ← J Aoki. *Aedia leucomelas* [Lepidoptera: Noctuidae] on *Ipomea batatas* (sweet potato). 29 Oct 1976. Japan: Fuchu, Tokyo Prefecture.
- 251 JG Hamm. ?*Heliothis* sp. [Lepidoptera: Noctuidae] on sorghum. Rec'd Sep 1978. USA: GA Coastal Plain Experiment Station, Tifton, Georgia.
- 998 [ARSEF ?198] J Aoki (Ent. 14) ← A Ohkawa. *Aedia leucomelas* [Lepidoptera: Noctuidae]. Oct 1976. Japan: Fuchu, Tokyo Prefecture.
- 1140 [ARSEF 1656] M Shimazu (F-339). [Lepidoptera]. 8 Apr 1982. Japan: Ibaraki Prefecture.
- 1655 [ARSEF 1142 (lost); CSIRO EM693] M Shimazu (F-343). *Dendrolimus spectabilis* [Lepidoptera: Lasiocampidae]. Rec'd Oct 1984. Japan: Ibaraki Prefecture.
- 1656 [ARSEF 1140] M Shimazu (F-339). [Lepidoptera]. Rec'd Oct 1984. Japan: Ibaraki Prefecture.
- 1657 [CSIRO EM690] M Shimazu (F-327). *Mamestra brassicae* [Lepidoptera: Noctuidae]. Acc'd 19 Oct 1984. Japan: Ibaraki Prefecture.
- 1751 J Mitsuhashi (Emb-1). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 29 Oct 1984. Japan: Ibaraki Prefecture.
- 1990 FPMI (491). *Lambdina fiscellaria lugubrosa* [Lepidoptera: Geometridae]. 16 Aug 1972. Canada: Coquitlam, British Columbia.
- 1991 FPMI (458). *Lambdina fiscellaria fiscellaria* [Lepidoptera: Geometridae]. 8 Sep 1970. Canada: Boots Brook, Newfoundland.
- 1992 FPMI (889). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 5 Jul 1985. Canada: Black Sturgeon, Ontario.
- 1993 FPMI (771). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 25 Jun 1984. Canada: Black Sturgeon, Ontario.
- 1994 FPMI (776). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 22 Jun 1984. Canada: Black Sturgeon, Ontario.
- 1995 FPMI (777). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 22 Jun 1984. Canada: Black Sturgeon, Ontario.
- 1997 FPMI (894). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 29 Jul 1985. Canada: Black Sturgeon, Ontario.
- 1998 FPMI (877). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 11 Sep 1979. Canada: Thessalon, Ontario.
- 1999 FPMI (576). *Pseudaletia* sp. [Lepidoptera: Noctuidae]. 18 Jul 1976. Canada: Sault Ste. Marie, Ontario.
- 2000 FPMI (513). *Enypia griseata* [Lepidoptera: Geometridae]. 1975. Canada: British Columbia.
- 2362 M Shimazu (F-554-4). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2363 M Shimazu (F-553-3). *Autographa gamma* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2365 M Shimazu (F-553-1). *Autographa gamma* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2366 M Shimazu (F-555). *Colias erate poliographus* [Lepidoptera: Pieridae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2367 M Shimazu (F-554-3). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2368 M Shimazu (F-554-2). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2369 M Shimazu (F-554-1). *Mamestra brassicae* [Lepidoptera: Noctuidae]. 26 Sep 1986. Japan: Hokkaido Prefecture.
- 2372 M Shimazu (F-531). *Spilosoma niveum* [Lepidoptera: Arctiidae]. 14 May 1986. Japan: Chiyoda-mura, Ibaraki Prefecture.
- 2373 M Shimazu (F-530-2). *Spilosoma niveum* [Lepidoptera: Arctiidae]. 6 May 1986. Japan: Sakura-mura, Chiba Prefecture.
- 2374 M Shimazu (F-530-1). *Spilosoma niveum* [Lepidoptera: Arctiidae]. 6 May 1986. Japan: Sakura-mura, Chiba Prefecture.
- 2843 JC Silver ← A Sands. *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. Aug 1989. USA: Wilmington, Vermont.
- 2896 FPMI (521). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 13 Jul 1973. Canada: Newfoundland.
- 2897 FPMI (626). *Dryocampa rubicunda* [Lepidoptera: Saturniidae]. 1973. Canada: Ontario.
- 2898 FPMI (646). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 27 Jul 1978. Canada: Newfoundland.
- 2899 FPMI (717). *Rheumaptera hastata* [Lepidoptera: Geometridae]. 16 Aug 1982. Canada: Gargantua, Ontario.
- 2900 FPMI (893). *Lambdina fiscellaria fiscellaria* [Lepidoptera: Geometridae]. 29 Jul 1983. Canada: Gander, Newfoundland.
- 2901 FPMI (934). *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 2 Jul 1986. Canada: Black Sturgeon, Ontario.
- 2902 FPMI (597). *Heterocampa* sp. [Lepidoptera: Notodontidae]. 2 Aug 1976. Canada: St. Joseph's Island, Ontario.
- 2903 FPMI (598). *Ellida caniplaga* [Lepidoptera: Notodontidae]. 10 Aug 1976. Canada: St. Joseph's Island, Ontario.
- 2904 FPMI (600). *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. 22 Jul 1976. Canada: Hilton Beach, Ontario.

- 2905 FPMI (602). *Heterocampa biundata* [Lepidoptera: Notodontidae]. 14 Aug 1976. Canada: St. Joseph's Island, Ontario.
- 3016 MH Griggs. Larva, [Lepidoptera: Noctuidae]. 9 Jul 1990. USA: Game Farm Rd., Ithaca, New York.
- 3039 AE Hajek. *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. 3 Aug 1990. USA: Stamford, New York.
- 3212 AE Hajek. *Heterocampa guttivitta* [Lepidoptera: Notodontidae]. 3 Aug 1990. USA: Stamford, New York. Resting spores from ARSEF 3039.
- 3602 AE Hajek. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 10 Jun 1991. USA: McGowan Woods, Ithaca, New York. Resting spores.
- 4004 [AE Hajek A-OV] Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4005 [AE Hajek] Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4006 [AE Hajek] Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4007 AE Hajek. Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 12 Aug 1993. USA: Bodega Bay, California.
- 4008 AE Hajek (D-OV). Larva, *Orgyia vetusta* [Lepidoptera: Lymantriidae] *Lupinus arboreus*. Rec'd 17 Aug 1993. USA: Bodega Bay, California.
- 7140 AE Hajek (03 ME 1-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Coastal Studies Center, Orrs Island, Maine.
- 7141 AE Hajek (03 ME 2-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: 601 Merriman Point, Harpswell Neck, Maine.
- 7142 AE Hajek (03 ME 3-1-2). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Yarmouth, Maine.
- 7143 AE Hajek (03 ME 4-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Old Ledge School, Yarmouth, Maine.
- 7144 AE Hajek (03 ME 5-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: Windy Hill, Bailey Island, Maine.
- 7145 AE Hajek (03 ME 6-1-1). *Euproctis chrysorrhoea* [Lepidoptera: Lymantriidae]. 16 Jun 2003. USA: CCI CV, Bailey Island, Maine.
- Entomophaga australiensis*** Humber (sp. nov., unpublished)
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 328 [FPMI 767] RS Soper (P-38). *Cicadella* sp. [Homoptera: Cicadellidae] on rice. Feb 1979. Australia: Arriga, Queensland.
- 331 [ARSEF 332 (lost)] RS Soper ← K Chandler. *Cicadetta puer* [Homoptera: Cicadidae] on sugar cane. 14 Feb 1979. Australia: Cairns, Queensland.
- 365 RS Soper. *Cicadetta puer* [Homoptera: Cicadidae]. 13 Feb 1979. Australia: Cairns, Queensland.
- 581 RS Soper (81223-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 23 Feb 1981. Indonesia: Bangun Village, Kecamatan Tanjung, Deliserdang District, Sumatera Utara, Sumatra.
- 743 [CNPAF 82-3-10-04; CP 33] RS Soper. [Homoptera: Cicadellidae]. 10 Mar 1982. Brazil: CNPAF, Goiânia, Goiás.
- 791 [CNPAF 82-5-7-3D-1; CP 44] RA Daoust and DW Roberts. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 7 May 1982. Brazil: 4 km from Goianinha, Rio Grande do Norte.
- 1888 RS Soper. Reisolate of ARSEF 743. 10 May 1982. Brazil: CNPAF, Goiânia, Goiás.
- 1920 P Taylor. Reisolate of ARSEF 331 passed through *Sogatodes oryzicola* [Homoptera: Delphacidae]. Jul 1985. Laboratory manipulation.
- Entomophaga calopteni*** (Bessey) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.
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- 383 RA Humber ← DM MacLeod. *Melanoplus flavidus* [Orthoptera: Acrididae]. 3 Aug 1979. USA: Sheridan, Wyoming.
- 390 RA Humber ← RS Soper. *Melanoplus bivittatus* [Orthoptera: Acrididae]. 3 Aug 1979. USA: Sheridan, Wyoming.
- 408 RA Humber. *Melanoplus bivittatus* [Orthoptera: Acrididae]. 2 Aug 1979. USA: Broadus, Montana.
- 497 RA Humber and BJ Martinell. *Melanoplus bivittatus* [Orthoptera: Acrididae]. 27 Jun 1979. USA: Salt Water Canyon, Eagar, Arizona.
- 498 RA Humber and BJ Martinell. *Melanoplus bivittatus* [Orthoptera: Acrididae]. 5 Jul 1980. USA: White River, South Dakota.
- 500 RA Humber and BJ Martinell. *Melanoplus bivittatus* [Orthoptera: Acrididae] resting spore isolate passed through *Locusta migratoria* [Orthoptera: Acrididae]. Summer 1980. Laboratory manipulation.
- 623 BJ Martinell (004B(M. cun haem)). *Melanoplus cuneatus* [Orthoptera: Acrididae]. 18 Jun 1981. USA: Southwater Canyon, Arizona.
- 625 BJ Martinell (014B). *Melanoplus packardii* [Orthoptera: Acrididae]. 1 Jul 1981. USA: alfalfa field, Eagar, Arizona.
- 626 BJ Martinell (004A(M. cun femur)). *Melanoplus cuneatus* [Orthoptera: Acrididae]. 18 Jun 1981. USA: Southwater Canyon, Arizona.

- 646 BJ Martinell. *Melanoplus cuneatus* [Orthoptera: Acrididae]. 1 Jul 1981. USA: Eagar, Arizona.
- 2522 DG Holdom ← WA Ramoska. *Melanoplus differentialis* [Orthoptera: Acrididae]. Acc'd 8 Dec 1987. USA: Kansas.
- Entomophaga conglomerata*** (Sorokin) S Keller
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 2273 EL Cuebas-Incle (II). Adult, [Diptera: Chironomidae]. 25 Sep 1986. USA: Michigan Hollow, Danby, New York.
- Entomophaga macleodii*** Humber (sp. nov., unpublished)
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.
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- 375 [FPMI 647] DM MacLeod. *Dissosteira carolina* [Orthoptera: Acrididae]. 20 Apr 1989. Canada: nr. river bank, Iron Bridge, Ontario.
- 376 [FPMI 625] DM MacLeod. *Dissosteira carolina* [Orthoptera: Acrididae]. 21 Jul 1977. Canada: nr. river bank, Iron Bridge, Ontario.
- 382 RS Soper. *Dissosteira carolina* [Orthoptera: Acrididae]. Aug 1979. USA: 12 Redwood Lane, Ithaca, New York.
- 496 RA Humber and BJ Martinell. *Camnula pellucida* [Orthoptera: Acrididae]. 28 Jun 1980. USA: Rodeo fairground, Alpine, Arizona.
- 499 RA Humber, BJ Martinell and RS Soper. *Dissosteira carolina* [Orthoptera: Acrididae]. 17 Jul 1980. USA: Ithaca, New York.
- 618 BJ Martinell (003(Rodeo)). *Camnula pellucida* [Orthoptera: Acrididae]. 16 Jun 1981. USA: Rodeo fairground, Alpine, Arizona.
- 619 BJ Martinell (001(FSA)). *Camnula pellucida* [Orthoptera: Acrididae]. 16 Jun 1981. USA: Forest Service plot A, Alpine, Arizona.
- 620 BJ Martinell (006(Judd B proto)). *Camnula pellucida* [Orthoptera: Acrididae]. 27 Jun 1981. USA: Judd Dam plot B, nr. Alpine, Arizona.
- 621 BJ Martinell (010(AlpineA)). *Camnula pellucida* [Orthoptera: Acrididae]. 29 Jun 1981. USA: Alpine plot A, Alpine, Arizona.
- 624 BJ Martinell (011(JuddA)). *Camnula pellucida* [Orthoptera: Acrididae]. 29 Jun 1981. USA: Judd Dam plot A, nr. Alpine, Arizona.
- 628 BJ Martinell (008). *Camnula pellucida* [Orthoptera: Acrididae]. 27 Jun 1981. USA: Alpine plot B, Alpine, Arizona.
- 629 BJ Martinell (002). *Camnula pellucida* [Orthoptera: Acrididae]. 23 Jun 1981. USA: Forest Service plot B, Alpine, Arizona.
- 765 BJ Martinell (41). *Camnula pellucida* [Orthoptera: Acrididae]. 28 Jul 1982. USA: Judd Dam, nr. Alpine, Arizona.
- 767 BJ Martinell (1). *Camnula pellucida* [Orthoptera: Acrididae]. 18 Jul 1982. USA: Jepson's Ranch, Alpine, Arizona.
- 768 BJ Martinell (3). *Camnula pellucida* [Orthoptera: Acrididae]. 18 Jul 1982. USA: Rodeo fairground, Alpine, Arizona.
- 769 BJ Martinell (13). *Camnula pellucida* [Orthoptera: Acrididae]. 23 Jul 1982. USA: ELC Flat, nr. Alpine, Arizona.
- 770 BJ Martinell (20). *Camnula pellucida* [Orthoptera: Acrididae] isolate passed through *Melanoplus bivittatus* [Orthoptera: Acrididae]. 23 Jul 1982. Laboratory manipulation.
- 771 BJ Martinell (21). *Camnula pellucida* [Orthoptera: Acrididae] isolate passed through *Melanoplus bivittatus* [Orthoptera: Acrididae]. 23 Jul 1982. Laboratory manipulation.
- 772 BJ Martinell (12). *Camnula pellucida* [Orthoptera: Acrididae] isolate passed through *Melanoplus packardii* [Orthoptera: Acrididae]. 18 Jul 1982. Laboratory manipulation.
- 773 BJ Martinell (10). *Camnula pellucida* [Orthoptera: Acrididae]. 18 Jul 1982. USA: Rodeo fairground, Alpine, Arizona.
- 774 BJ Martinell (25). *Camnula pellucida* [Orthoptera: Acrididae]. 23 Jul 1982. USA: ELC Flat, nr. Alpine, Arizona.
- 775 BJ Martinell (11) and RS Soper. *Camnula pellucida* [Orthoptera: Acrididae] isolate passed through *Melanoplus packardii* [Orthoptera: Acrididae]. 18 Jul 1982. Laboratory manipulation.
- 776 BJ Martinell (8) and RS Soper. *Camnula pellucida* [Orthoptera: Acrididae] isolate passed through *Melanoplus bivittatus* [Orthoptera: Acrididae]. 18 Jul 1982. Laboratory manipulation.
- 777 BJ Martinell (28). *Camnula pellucida* [Orthoptera: Acrididae]. 23 Jul 1982. USA: Judd Dam, nr. Alpine, Arizona.
- 778 BJ Martinell (23). *Camnula pellucida* [Orthoptera: Acrididae]. 23 Jul 1982. USA: ELC Flat, nr. Alpine, Arizona.
- 779 BJ Martinell (22). *Camnula pellucida* [Orthoptera: Acrididae]. 23 Jul 1982. USA: ELC flats, nr. Alpine, Arizona.
- 3077 L Postie (Reisolate 1). Reisolate of ARSEF 768 passed through *Camnula pellucida* [Orthoptera: Acrididae]. Apr 1990. Laboratory manipulation.
- 3078 L Postie (Reisolate 2). Reisolate of ARSEF 768 passed through *Camnula pellucida* [Orthoptera: Acrididae]. Apr 1990. Laboratory manipulation.
- 3079 L Postie (Reisolate 3). Reisolate of ARSEF 3078 passed through *Camnula pellucida* [Orthoptera: Acrididae]. 6 Aug 1990. Laboratory manipulation.

- 4948 JA Correa (I) ← S Sanchez-Peña. *Camnula pellucida* [Orthoptera: Acrididae]. 26 Jun 1995. USA: Klamath National Wildlife Refuge, Klamath County, Oregon. 1) Reisolate of ARSEF 770.
- 4949 JA Correa (II) ← S Sanchez-Peña. *Camnula pellucida* [Orthoptera: Acrididae]. 26 Jun 1995. USA: Klamath National Wildlife Refuge, Klamath County, Oregon. 1) Reisolate of ARSEF 770.
- 4950 JA Correa (III) ← S Sanchez-Peña. *Camnula pellucida* [Orthoptera: Acrididae]. 26 Jun 1995. USA: Klamath National Wildlife Refuge, Klamath County, Oregon. 1) Reisolate of ARSEF 770.
- 4951 JA Correa (IV) ← S Sanchez-Peña. *Camnula pellucida* [Orthoptera: Acrididae]. Rec'd 9 Aug 1995. USA: Klamath National Wildlife Refuge, Klamath County, Oregon.
- 4952 JA Correa (V) ← S Sanchez-Peña. *Camnula pellucida* [Orthoptera: Acrididae]. 26 Jun 1995. USA: Klamath National Wildlife Refuge, Klamath County, Oregon. 1) Reisolate of ARSEF 770.
- 4953 JA Correa (VI) ← S Sanchez-Peña. *Camnula pellucida* [Orthoptera: Acrididae]. 26 Jun 1995. USA: Klamath National Wildlife Refuge, Klamath County, Oregon. 1) Reisolate of ARSEF 770.
- Entomophaga maimaiga*** Humber, Shimazu & Soper in Soper, Shimazu, Humber, Ramos & Hajek [Entomophthoromycotina: Entomophthorales]
Entomophthoraceae. Strains will grow as wall-less protoplasts in liquid tissue culture media or as walled hyphae on solid culture media.
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- 1390 RS Soper (84626-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1391 [FPMI 963] RS Soper (84626-7-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1392 [FPMI 964] RS Soper (84626-7-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1400 [FPMI 952] RS Soper (84626-7). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Torigoe, Ishikawa Prefecture.
- 1658 M Shimazu (F-446). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 26 Jun 1984. Japan: Ishikawa Prefecture.
- 1746 M Shimazu. Reisolate of ARSEF 1400 passed through *Lymantria dispar* [Lepidoptera: Lymantriidae]. 28 Nov 1984. Laboratory manipulation.
- 2370 M Shimazu (F-541-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jul 1986. Japan: Sakuramura, Chiba Prefecture.
- 2371 M Shimazu (F-541-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jul 1986. Japan: Sakuramura, Chiba Prefecture.
- 2661 AE Hajek. Reisolate of ARSEF 1400 passed through *Lymantria dispar* [Lepidoptera: Lymantriidae]. 23 Oct 1988. Laboratory manipulation.
- 2775 AE Hajek (CTIV-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 21 Jun 1989. USA: Wilton, Connecticut.
- 2779 AE Hajek. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 25 Jun 1989. USA: Northampton, Massachusetts.
- 2780 AE Hajek. *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jul 1989. USA: North Conway, New Hampshire.
- 3052 AE Hajek (L1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1990. USA: Ward Pound Ridge Reservation, Westchester County, New York.
- 3053 AE Hajek (L3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1990. USA: Ward Pound Ridge Reservation, Westchester County, New York.
- 3110 AE Hajek. Reisolate of ARSEF 1400 passed through *Lymantria dispar* [Lepidoptera: Lymantriidae]. 6 Feb 1989. Laboratory manipulation.
- 3762 AE Hajek ← JC Silver. Rec'd 10 Jul 1992. Location not specified.
- 3828 AE Hajek (001-TA). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3829 AE Hajek (001-TB). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3830 AE Hajek (001-TC). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3831 AE Hajek (001-TD). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3832 AE Hajek (001-TE). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3833 AE Hajek (001-TF). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3834 AE Hajek (001-TG). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3835 AE Hajek (001-TH). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae] *Quercus rubra*. 26 Jun 1992. USA: Tower Rd., Ithaca, New York.
- 3880 S Walsh (3762T23) ← ARSEF (3762). Rec'd 19 Feb 1993. Laboratory manipulation. Culture maintained for genetic variance studies.
- 3887 S Walsh (Hr 56). Rec'd 19 Feb 1993. Culture maintained for genetic variability.
- 3913 M Welton (FPMI 992). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 8 Jun 1992. Canada: Kingston, Ontario region, Adolphostown Twp, Ontario.

- 4504 AE Hajek (Ci-1) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Park, Rockbridge County, Virginia. Fungus collected from *Catocala ilia*. *L. dispar* died 5 days after conidial shower, then produced conidia. Fungus isolated from *L. dispar*.
- 4505 AE Hajek (C.i.-2) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Park, Rockbridge County, Virginia. Fungus collected from *Catocala ilia*. *L. dispar* died 5 days after conidial shower, then produced conidia. Fungus isolated from *L. dispar*.
- 4506 AE Hajek (C.i.-3) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Forest, Rockbridge County, Virginia. Fungus collected from *Catocala ilia*. *L. dispar* died 5 days after conidial shower, then produced conidia. Fungus isolated from *L. dispar*.
- 4507 AE Hajek (C.i.-4) ← S Talley. Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 18 May 1994. USA: George Washington National Forest, Rockbridge County, Virginia. Fungus collected from *Catocala ilia*. *L. dispar* died 5 days after conidial shower, then produced conidia. Fungus isolated from *L. dispar*.
- 4508 AE Hajek (I.S.-1). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1994. USA: Irish Settlement Road; Yellow Barn Forest, Ithaca, New York.
- 4509 AE Hajek (I.S.-2). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1994. USA: Irish Settlement Road; Yellow Barn Forest, Ithaca, New York.
- 4510 AE Hajek (I.A.-3). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. 27 May 1994. USA: Irish Settlement Road; Yellow Barn Forest, Ithaca, New York.
- 4545 AE Hajek (B-20MD#2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 30 May 1994. Isolated through *Lymantria dispar* larvae.
- 4549 AE Hajek (94 NY1-4A) or (I.S. 4). *Lymantria dispar* [Lepidoptera: Lymantriidae] Soil sith resting spores. Rec'd 22 Aug 1994. USA: Irish Settlement Rd; Yellow Barn State Forest, Dryden, New York.
- 4550 AE Hajek (I.S. 5). *Lymantria dispar* [Lepidoptera: Lymantriidae] Soil sith resting spores. Rec'd 22 Aug 1994. USA: Irish Settlement Rd; Yellow Barn State Forest, Dryden, New York.
- 4551 AE Hajek (I.S. 6). *Lymantria dispar* [Lepidoptera: Lymantriidae] Soil sith resting spores. Rec'd 22 Aug 1994. USA: Irish Settlement Rd; Yellow Barn State Forest, Dryden, New York.
- 4552 AE Hajek (VA - A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Union Springs, Rockingham County, Virginia.
- 4553 AE Hajek (VA - C). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Little River, Rockingham County, Virginia.
- 4554 AE Hajek (VA - E). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Big Mary's, Rockingham County, Virginia.
- 4555 AE Hajek (VA - F). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 22 Aug 1994. USA: Wiggins Springs, Rockingham County, Virginia.
- 5377 AE Hajek (96 MD A2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5378 AE Hajek (96 MD A2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5379 AE Hajek (96 MD B2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5380 AE Hajek (96 MD B2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5381 AE Hajek (96 MD B2-3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5382 AE Hajek (96 MD B2-4). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5383 AE Hajek (96 MD B2-5). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5384 AE Hajek (96 MD B2-6). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5385 AE Hajek (96 MD C2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5386 AE Hajek (96 MD D2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5387 AE Hajek (96 MD D2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5388 AE Hajek (96 MD E2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5389 AE Hajek (96 MD E2-2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5390 AE Hajek (96 MD F2-1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Sudlersville, Maryland.
- 5391 AE Hajek (96 NY B2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.

- 5392 AE Hajek (96 NY C2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5393 AE Hajek (96 NY C3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5394 AE Hajek (96 NY D1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5395 AE Hajek (96 NY D2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5396 AE Hajek (96 NY D3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5397 AE Hajek (96 NY E1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5398 AE Hajek (96 NY E2). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5399 AE Hajek (96 NY E3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5400 AE Hajek (96 NY F1). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5401 AE Hajek (96 NY F3). 4th instar larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Rec'd 10 Dec 1996. USA: Yellow Barn State Forest, Dryden, New York.
- 5563 AE Hajek (96MA1-1A). Rec'd 3 Nov 1997.
- 5564 AE Hajek (96MA1-1B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 9 May 1996. USA: Quabbin Reservoir, Franklin County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 5565 AE Hajek (92NJ1-1A). Rec'd 3 Nov 1997.
- 5566 AE Hajek (94VA2-2A). Rec'd 3 Nov 1997.
- 5567 AE Hajek (94VA2-2B). Rec'd 3 Nov 1997.
- 5568 AE Hajek (97VA10-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1997. USA: Elliot Spring Run, Butler field plot 1, George Washington National Forest, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 5569 AE Hajek (96VA9-1A). Rec'd 10 Nov 1997.
- 5570 AE Hajek (96VA9-1B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Dec 1996. USA: Archer Run, Deerfield Ranger District, Butler field plot 2, George Washington National Forest, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
- 5571 AE Hajek (97VA10-1B). Rec'd 10 Nov 1997.
- 5572 AE Hajek (92NJ1-1B). Rec'd 13 Nov 1997.
- 5711 AE Hajek (96MA1-1C). Rec'd 13 May 1998.
- 6004 AE Hajek (98 MA2-8A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6005 AE Hajek (98 MA2-14A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6006 AE Hajek (98MI1-2A). Rec'd 21 Jan 1999.
- 6007 AE Hajek (98MI1-2B). Rec'd 21 Jan 1999.
- 6051 AE Hajek (98MA2-4A). Rec'd 19 Feb 1999.
- 6052 AE Hajek (98MA2-4B). Rec'd 19 Feb 1999.
- 6053 AE Hajek (98MI1-1A). Rec'd 19 Feb 1999.
- 6054 AE Hajek (98MI1-1B). Rec'd 19 Feb 1999.
- 6105 AE Hajek (98MA2-6B). Rec'd 31 Mar 1999.
- 6106 AE Hajek (98MA2-8B). Rec'd 31 Mar 1999.
- 6161 AE Hajek (96 MD B2-4). Rec'd 12 May 1999.
- 6162 AE Hajek (98 JP2-9A). Rec'd 12 May 1999.
- 6163 AE Hajek (98 JP2-5B). Rec'd 12 May 1999.
- 6168 AE Hajek (94 WV1-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1994. USA: Hawes Run, Pendleton County, West Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6169 AE Hajek (VA-IVY) or (94 VA8-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1994. USA: IVY Branch, Amherst County, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6170 AE Hajek (99 WV2-2C). *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. May 1999. Isolated from *Malacosoma disstria* exposed to sporulating cadaver.
- 6171 AE Hajek (98 JP3-5A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6172 AE Hajek (98 JP3-5B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

- 6173 AE Hajek (99 WV2-2A). *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. May 1999. Isolated from *Lymantria dispar* after passage through *Malacosoma disstria* exposed to sporulating cadaver of *M. americanum*.
- 6174 AE Hajek (99 WV2-2B). *Malacosoma americanum* [Lepidoptera: Lasiocampidae]. May 1999. Isolated from *Lymantria dispar* after passage through *Malacosoma disstria* exposed to sporulating cadaver of *M. americanum*.
- 6212 AE Hajek (98 JP2-5A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6218 AE Hajek (94 VA4-3A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 1994. USA: Mines Run, George Washington National Forest, Rockingham County, Virginia. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6223 AE Hajek (98 JP2-22B). Rec'd 25 Aug 1999.
- 6224 AE Hajek (98 JP2-10B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6253 AE Hajek (98 JP2-4A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6254 AE Hajek (98 JP2-10A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6255 AE Hajek (98 JP2-14A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6256 AE Hajek (98 JP2-14B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6257 AE Hajek (98 JP2-22A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6258 AE Hajek (98 JP3-8A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6264 AE Hajek (98 JP2-22B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6265 AE Hajek (98 JP3-8B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6266 AE Hajek (98 JP3-9A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6267 AE Hajek (98 JP2-21A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1 Sep 1998. Japan: Yamauchi, Chonan, Chiba Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6268 AE Hajek (98 JP3-9B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2 Sep 1998. Japan: Namiki, Tsukuba, Ibaraki Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6269 AE Hajek (98 MA2-2A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6270 AE Hajek (98 MA2-2B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6271 AE Hajek (98 MA2-6A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6272 AE Hajek (98 MA2-14B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1998. USA: The Notch, Hampshire County, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6523 AE Hajek (99 MI9-1A). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1999. USA: Site #9, Oceana County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6524 AE Hajek (99 MI9-2A). Larva, *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 1999. USA: Site #9, Oceana County, Michigan. Host infected in

- laboratory upon exposure to germinating resting spores in field-collected soil.
- 6625 AE Hajek (00 NY 1-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jun 2000. USA: Yellow Barn State Forest, Dryden, New York. Host infected in laboratory upon exposure to field-collected sporulating cadaver of *L. dispar*.
- 6626 AE Hajek (00 MI 3-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6627 AE Hajek (00 MI 17-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 17, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6628 AE Hajek (00 MI 19-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 19, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6629 AE Hajek (00 MI 24-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 24, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6630 AE Hajek (00 MI 27-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 27, Kalkaska County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6652 AE Hajek (00 MI 2-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 2000. USA: Stand 2, Grand Traverse County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6653 AE Hajek (00 MI 4-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 4, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6654 AE Hajek (00 MI 18-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2000. USA: Stand 18, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6655 AE Hajek (00 MI 28-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 28, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6656 AE Hajek (00 MI 29-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 29, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6657 AE Hajek (00 MI 33-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 2000. USA: Stand 33, Clare County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6663 AE Hajek (00 MI 2-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 2000. USA: Stand 2, Grand Traverse County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6664 AE Hajek (00 MI 3-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6665 AE Hajek (00 MI 3-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6666 AE Hajek (00 MI 12-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 2000. USA: Stand 12, Lake County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6667 AE Hajek (00 MI 12-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 2000. USA: Stand 12, Lake County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6668 AE Hajek (00 MI 12-2-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 10 Jun 2000. USA: Stand 12, Lake County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6724 AE Hajek (00 MI 3-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 14 Jun 2000. USA: Stand 3, Manistee County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6725 AE Hajek (00 MI 19-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2001. USA: Stand 19, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6726 AE Hajek (00 MI 24-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 Jun 2003. USA: Stand 24, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6727 AE Hajek (00 MI 27-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 11 Jun 2000. USA: Stand 27, Kalkaska County, Michigan. Host infected in

- laboratory upon exposure to germinating resting spores in field-collected soil.
- 6728 AE Hajek (00 MI 17-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2000. USA: Stand 17, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 6729 AE Hajek (00 MI 17-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Jun 2000. USA: Stand 17, Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7101 AE Hajek (99 MI 5-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Mason County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7102 AE Hajek (99 MI 27). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Kalkaska County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7103 AE Hajek (00 MI 29-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 29, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7104 AE Hajek (01 JP 4-11-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7105 AE Hajek (01 JP 4-12-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7106 AE Hajek (99 MI 28-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7107 AE Hajek (00 MI 28-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 28, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7108 AE Hajek (00 MI 28-1-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 28, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7109 AE Hajek (00 MI 29-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Jun 2000. USA: Stand 29, Roscommon County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7110 AE Hajek (00 MI 33-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 2000. USA: Stand 33, Clare County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7111 AE Hajek (00 MI 33-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 12 Jun 2000. USA: Stand 33, Clare County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7112 AE Hajek (01 JP 4-11-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7113 AE Hajek (01 JP 4-11-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7114 AE Hajek (01 JP 4-12-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7115 AE Hajek (99 MI 21). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 1999. USA: Newaygo County, Michigan. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7116 AE Hajek (01 JP 4-12-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 2001. Japan: Tmayama Village, Morioka City, Iwate Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7120 AE Hajek (03 PA 1-1-1A). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7121 AE Hajek (03 PA 1-1-1B). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7122 AE Hajek (03 PA 1-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7123 AE Hajek (03 MA 3-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

- 7124 AE Hajek (03 MA 3-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7125 AE Hajek (03 MA 3-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7126 AE Hajek (03 MA 3-2-3). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7127 AE Hajek (03 RU 1-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 8 Jul 1999. Russian Federation: oak stand, Khabarovsk. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7131 AE Hajek (03 PA 2-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Route 54, north of Danville, Montour County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7132 AE Hajek (03 PA 3-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Klein Road, Montour County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7133 AE Hajek (03 PA 4-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Comfort Road, Montour County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7134 AE Hajek (03 PA 5-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Cold Run Road, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7135 AE Hajek (03 PA 6-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Route 890, north of Trevorton, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7136 AE Hajek (03 PA 7-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Southampton Twp near town of Chaneyville, Bedford County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7137 AE Hajek (03 MA 3-2-4). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7138 AE Hajek (03 MA 3-2-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. Apr 2003. USA: Myles Standish State Forest, South Carver, Massachusetts. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7139 AE Hajek (02 CN 1-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 2002. PR China: Soil sample number MS5, Maoershan, Heilongjiang. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7183 AE Hajek (02 CN 1-2-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 2002. PR China: Soil sample number MS3, Maoershan, Heilongjiang. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7184 AE Hajek (02 CN 1-2-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 20 Jul 2002. PR China: Soil sample number MS3, Maoershan, Heilongjiang. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7185 AE Hajek (03 JP 5-1-1). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7186 AE Hajek (03 JP 5-1-2). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7187 AE Hajek (03 JP 5-1-4). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7188 AE Hajek (03 JP 5-1-6). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7189 AE Hajek (03 JP 5-1-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 13 May 2003. Japan: Soil sample beneath tree number 1, Takehara, Hiroshima Prefecture. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7190 AE Hajek (03 PA 1-1-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Metzger Trail, Lycoming County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.
- 7352 AE Hajek (03 PA 5-1-5). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Cold Run Road, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

7353 AE Hajek (03 PA 6-1-4). *Lymantria dispar* [Lepidoptera: Lymantriidae]. 16 Apr 2003. USA: Route 890, north of Trevorton, Northumberland County, Pennsylvania. Host infected in laboratory upon exposure to germinating resting spores in field-collected soil.

Entomophaga praxibuli Humber, Milner, & Soper (sp. nov., unpublished)
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.

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- 840 RS Soper. *Praxibulus* sp. [Orthoptera: Acrididae]. 1983. Australia: Wanwibinda, New South Wales.
- 2721 ME Ramos. Reisolate of ARSEF 840 passed through *Camnula pellucida* [Orthoptera: Acrididae]. Spring 1989. Laboratory manipulation.
- 2963 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus differentialis* [Orthoptera: Acrididae]. 7 Mar 1990. Laboratory manipulation.
- 2964 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus differentialis* [Orthoptera: Acrididae]. 7 Mar 1990. Laboratory manipulation.
- 2965 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus differentialis* [Orthoptera: Acrididae]. 7 Mar 1990. Laboratory manipulation.
- 2966 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus differentialis* [Orthoptera: Acrididae]. 7 Mar 1990. Laboratory manipulation.
- 2967 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus sanguinipes* [Orthoptera: Acrididae]. 14 Mar 1990. Laboratory manipulation.
- 2968 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus sanguinipes* [Orthoptera: Acrididae]. 14 Mar 1990. Laboratory manipulation.
- 2969 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus sanguinipes* [Orthoptera: Acrididae]. 14 Mar 1990. Laboratory manipulation.
- 2970 ME Ramos. *Praxibulus* sp. [Orthoptera: Acrididae] conidial isolate passed through *Melanoplus sanguinipes* [Orthoptera: Acrididae]. 14 Mar 1990. Laboratory manipulation.
- 3058 ME Ramos. *Empoasca vitis* [Homoptera: Cicadellidae]. 10 Aug 1990. Laboratory manipulation. Reisolate of ARSEF 2964.
- 3059 ME Ramos. Reisolate of ARSEF 2964 passed through *Melanoplus differentialis* [Orthoptera: Acrididae]. 10 Aug 1990. Laboratory manipulation.

- 3060 ME Ramos. Reisolate of ARSEF 2964 passed through *Melanoplus infantilis* [Orthoptera: Acrididae]. 10 Aug 1990. Laboratory manipulation.
- 3061 ME Ramos. Reisolate of ARSEF 2964 passed through *Melanoplus infantilis* [Orthoptera: Acrididae]. 10 Aug 1990. Laboratory manipulation.
- 3068 ME Ramos. Reisolate of ARSEF 2964 passed through *Melanoplus infantilis* [Orthoptera: Acrididae]. 10 Aug 1990. Laboratory manipulation.
- 3069 ME Ramos. Reisolate of ARSEF 2964 passed through *Melanoplus bivittatus* [Orthoptera: Acrididae]. 10 Aug 1990. Laboratory manipulation.
- 3356 ME Ramos (Cape). Reisolate of ARSEF 3059 passed through *Camnula pellucida* [Orthoptera: Acrididae]. Rec'd 10 Jul 1991. Laboratory manipulation.
- 3357 ME Ramos (Mesa). Reisolate of ARSEF 3059 passed through *Melanoplus sanguinipes* [Orthoptera: Acrididae]. Rec'd 10 Jul 1991. Laboratory manipulation.
- 3358 ME Ramos (Mebi). Reisolate of ARSEF 3059 passed through *Melanoplus bivittatus* [Orthoptera: Acrididae]. Rec'd 10 Jul 1991. Laboratory manipulation.

Entomophthora chromaphidis Burger & Swain
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. This taxon has been segregated from *Entomophthora planchoniana* Cornu (see Humber & Feng, 1991, Mycotaxon 51:497-504). Strains should be incubated at temperatures $\leq 20^{\circ}\text{C}$.

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- 1860 DG Holdom (UQE-2-2). *Acyrtosiphon kondoi* [Homoptera: Aphididae]. Jun 1981. Australia: Lockyer Valley, Queensland.
- 1862 DG Holdom (UQE-15). *Acyrtosiphon kondoi* [Homoptera: Aphididae]. Jan 1983. Australia: Lockyer Valley, Queensland.
- 1863 DG Holdom (UQE-21). *Acyrtosiphon kondoi* [Homoptera: Aphididae]. Jan 1983. Australia: Lockyer Valley, Queensland.

Entomophthora culicis (Braun) Fresenius
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

-
- 387 S Keller (55). [Diptera: Nematocera]. Rec'd 3 Oct 1979. Switzerland: Zürich.
- 5811 J Eilenberg (KVL 98-4). [Diptera: Chironomidae]. Aug 1997. Denmark: KVL garden, Copenhagen, Frederiksberg, Zealand.

Entomophthora muscae (Cohn) Fresenius
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. This taxon is a partially resolved species complex (see Keller, 1984, Mitt. Schweiz. Entomol. Ges. 57: 131-132). Most strains are provided only as vegetative protoplasts in liquid tissue culture medium.

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- 392 [ARSEF 466 (lost)] S Keller (39). [Diptera]. Rec'd 18 Oct 1979. Switzerland.

- 454 RA Humber ← JP Kramer. *Musca domestica* [Diptera: Muscidae]. Mar 1980. USA: laboratory colony, Ithaca, New York.
- 556 RA Humber. *Musca domestica* [Diptera: Muscidae]. 11 Mar 1981. USA: JP Kramer's laboratory colony, Cornell University, Ithaca, New York.
- 557 BJ Martinell. *Musca domestica* [Diptera: Muscidae]. 10 Mar 1981. USA: Boyce Thompson Institute, Ithaca, New York.
- 651 BJ Martinell ← DE McCabe. *Pollenia rudis* [Diptera: Calliphoridae]. 5 Nov 1981. USA: Keuka Park, New York.
- 707 RA Humber. *Delia platura* [Diptera: Anthomyiidae]. 20 Feb 1982. United Kingdom: N Wilding's greenhouse colony, Rothamsted Experimental Station, Hertfordshire, England.
- 803 JD Vandenberg. *Musca domestica* [Diptera: Muscidae]. Acc'd 7 Mar 1988. USA: 119 Middaugh Rd., Brooktondale, New York.
- 826 DC Steinkraus. [Diptera: Syrphidae]. 1982. USA: Ithaca, New York.
- 2014 RA Humber. *Musca domestica* [Diptera: Muscidae]. 10 Mar 1981. USA: JP Kramer's laboratory colony, Cornell University, Ithaca, New York.
- 2087 TJ Poprawski (0195). Adult, [Diptera: Anthomyiidae] in rapeseed field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2088 TJ Poprawski (0196). Adult, [Diptera: Anthomyiidae] in rapeseed field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2089 TJ Poprawski (0197). Adult, *Delia* sp. [Diptera: Anthomyiidae] in sunflower field. Acc'd 19 Feb 1986. France: Béhoust, Yvelines.
- 2172 BA Mullens. *Musca domestica* [Diptera: Muscidae]. Acc'd 30 May 1986. USA: Riverside, California.
- 2263 TJ Poprawski (8617). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 16 Jun 1986. France: Béhoust, Yvelines.
- 2264 TJ Poprawski (8619). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 16 Jun 1986. France: Béhoust, Yvelines.
- 2265 TJ Poprawski (8622). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 19 Jun 1986. France: Béhoust, Yvelines.
- 2266 TJ Poprawski (8624). Adult, *Delia* sp. [Diptera: Anthomyiidae] on rapeseed. 19 Jun 1986. France: Béhoust, Yvelines.
- 2317 TJ Poprawski (8640). Adult, *Delia* sp. [Diptera: Anthomyiidae] on sugar beet. 14 Oct 1986. France: Béhoust, Yvelines.
- 2542 J Eilenberg (KVL 3) ← U Olesen. *Musca domestica* [Diptera: Muscidae]. Sep 1986. Denmark: Ribe, Fjlskov, Jutland.
- 2665 J Eilenberg (KVL 46). *Delia radicum* [Diptera: Anthomyiidae]. 14 Jun 1988. Denmark: Roskilde, Zealand.
- 2668 J Eilenberg (KVL 16). *Delia radicum* [Diptera: Anthomyiidae]. 25 Jul 1986. Denmark: Svanholm, Malmöhus.
- 2670 J Eilenberg (KVL 45). *Delia radicum* [Diptera: Anthomyiidae]. 14 Jun 1988. Denmark: Roskilde, Zealand.
- 2673 J Eilenberg (KVL 50). [Diptera: Syrphidae]. 2 Aug 1988. Denmark: Roskilde, Zealand.
- 2674 J Eilenberg (KVL 51). *Delia radicum* [Diptera: Anthomyiidae]. 28 Jul 1988. Denmark: Roskilde, Zealand.
- 2675 J Eilenberg (KVL 44). *Delia radicum* [Diptera: Anthomyiidae]. 14 Jun 1988. Denmark: Roskilde, Zealand.
- 2678 J Eilenberg (KVL 17). [Diptera: Anthomyiidae]. 31 Jul 1986. Denmark: Holmegaards Mose, Zealand.
- 3074 RI Carruthers and SB Krasnoff. Adult, *Delia antiqua* [Diptera: Anthomyiidae]. 9 Oct 1990. USA: Prattsburg, New York.
- 5952 A Bruun Jensen (KVL 98-10). Adult, *Musca domestica* [Diptera: Muscidae]. 1 Sep 1998. Denmark: Dyssekilde, Hundested, Zealand.
- 5953 A Bruun Jensen (KVL 98-12). Adult, *Musca domestica* [Diptera: Muscidae]. 1 Sep 1998. Denmark: Dyssekilde, Hundested, Zealand.
- 5954 A Bruun Jensen (KVL 98-18). Adult, [Diptera: Muscidae]. 16 Aug 1998. Denmark: Amager, Zealand.
- 6121 A Bruun Jensen (KVL 99-1). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6122 A Bruun Jensen (KVL 99-2). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6123 A Bruun Jensen (KVL 99-3). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6124 A Bruun Jensen (KVL 99-5). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6125 A Bruun Jensen (KVL 99-6). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6126 A Bruun Jensen (KVL 99-7). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6127 A Bruun Jensen (KVL 99-8). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6128 A Bruun Jensen (KVL 99-9). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6129 A Bruun Jensen (KVL 99-10). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.

- 6130 A Bruun Jensen (KVL 99-11). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6131 A Bruun Jensen (KVL 99-12). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Sigerslevøster, Zealand.
- 6132 A Bruun Jensen (KVL 99-13). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6133 A Bruun Jensen (KVL 99-14). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6134 A Bruun Jensen (KVL 99-15). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6135 A Bruun Jensen (KVL 99-16). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6136 A Bruun Jensen (KVL 99-17). Adult, *Musca domestica* [Diptera: Muscidae]. Sep 1998. Denmark: Kirke Såby, Zealand.
- 6140 A Bruun Jensen (KVL 99-22). Adult, *Musca domestica* [Diptera: Muscidae]. 20 Aug 1996. Denmark: Skævinge, Zealand.
- 6141 A Bruun Jensen (KVL 99-23). Adult, *Musca domestica* [Diptera: Muscidae]. 20 Aug 1996. Denmark: Skævinge, Zealand.
- 6164 A Bruun Jensen (KVL 99-4). Adult, *Musca domestica* [Diptera: Muscidae]. 7 Oct 1998. Denmark: Nordtoftedal, Farum, Zealand.
- 6165 A Bruun Jensen (KVL 99-21). Adult, *Musca domestica* [Diptera: Muscidae]. 20 Aug 1996. Denmark: Skævinge, Zealand.
- 6274 A Bruun Jensen ← I Klingen (NCRI 1-99). Female, *Delia radicum* [Diptera: Anthomyiidae]. Aug 1999. Norway: Ski, Akershus.
- 6701 A Bruun Jensen (KVL 00-92). [Diptera]. 29 Jun 2000. Denmark: Hundested, Zealand.
- 6706 A Bruun Jensen (KVL 99-75). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hundested, Zealand.
- 6707 A Bruun Jensen (KVL 99-93). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6708 A Bruun Jensen (KVL 99-138). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6709 A Bruun Jensen (KVL 99-139). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Sengeløse, Zealand.
- 6710 A Bruun Jensen (KVL 01-21). *Delia radicum* [Diptera: Anthomyiidae]. 29 Jun 2000. Denmark: Hundested, Zealand.
- 6711 A Bruun Jensen (KVL 01-24). *Delia radicum* [Diptera: Anthomyiidae]. 23 Jul 2000. Denmark: Ørslev, Zealand.
- 6712 A Bruun Jensen (KVL 01-37). *Botanophila fugax* [Diptera: Anthomyiidae]. 30 Aug 2000. Denmark: Hegnstrup, Slangerup, Zealand.
- 6713 A Bruun Jensen (KVL 99-80). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6714 A Bruun Jensen (KVL 99-72). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6715 A Bruun Jensen (KVL 99-74). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6716 A Bruun Jensen (KVL 99-95). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6717 A Bruun Jensen (KVL 99-84). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6811 A Bruun Jensen (KVL 99-85). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6812 A Bruun Jensen (KVL 99-74). *Musca domestica* [Diptera: Muscidae]. 11 Jul 1999. Denmark: Sverkilde, Zealand.
- 6813 A Bruun Jensen (KVL 99-110). *Musca domestica* [Diptera: Muscidae]. 7 Oct 1999. Denmark: Knardrup, Zealand.
- 6814 A Bruun Jensen (KVL 99-109). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Hegnstrup, Slangerup, Zealand.
- 6815 A Bruun Jensen (KVL 99-102). *Delia radicum* [Diptera: Anthomyiidae]. 13 Jul 1999. Denmark: Sengeløse, Zealand.
- 6818 A Bruun Jensen (KVL 01-39). *Delia radicum* [Diptera: Anthomyiidae]. 18 Jul 2000. Denmark: Sengeløse, Zealand.
- 6821 A Bruun Jensen (KVL 01-22). *Delia radicum* [Diptera: Anthomyiidae]. 18 Jul 2000. Denmark: Sengeløse, Zealand.
- 6918 A Bruun Jensen (KVL 99-92). *Coenosia tigrina* [Diptera: Muscidae]. 29 Jul 1999. Denmark: Ørslev, Zealand.
- 7371 AE Hajek (04 NY 1-1-1). [Diptera]. 2 Jun 2004. USA: Yellow Barn State Forest, Dryden, New York.

Entomophthora planchoniana Cornu
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 6251 F Freimoser (ETH 16b). *Ovatus crataegarius* [Homoptera: Aphididae] on *Mentha* sp. (Lamiaceae). Rec'd 17 Aug 1999. Denmark: in garden, Hundested, Zealand.
- 6252 F Freimoser (ETH 16c). *Ovatus crataegarius* [Homoptera: Aphididae] on *Mentha* sp. (Lamiaceae). Rec'd 17 Aug 1999. Denmark: in garden, Hundested, Zealand.

Entomophthora scatophagae Giard

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 6704 A Bruun Jensen (KVL 00-60). *Scatophaga stercoraria* [Diptera: Scatophagidae]. 3 May 2000. Denmark: Tuse Næs, Zealand.
- 6705 A Bruun Jensen (KVL 00-61). *Scatophaga stercoraria* [Diptera: Scatophagidae]. 3 May 2000. Denmark: Tuse Næs, Zealand.

Entomophthora schizophorae S Keller & Wilding in

S Keller

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 2540 J Eilenberg (KVL 1). *Psila rosae* [Diptera: Psilidae]. Aug 1984. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2541 J Eilenberg (KVL 2). *Psila rosae* [Diptera: Psilidae]. Sep 1985. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 2667 J Eilenberg (KVL 13). *Psila rosae* [Diptera: Psilidae]. 23 Jun 1986. Denmark: Strandholm, Fårevejle, Vestsjælland.
- 5348 DW Watson. *Musca domestica* [Diptera: Muscidae]. Aug 1987. USA: Seward, Nebraska.
- 6137 A Bruun Jensen (KVL 99-18). Adult, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1996. Denmark: Roskilde, Zealand.
- 6138 A Bruun Jensen (KVL 99-19). Adult, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1996. Denmark: Roskilde, Zealand.
- 6139 A Bruun Jensen (KVL 99-20). Adult, *Musca domestica* [Diptera: Muscidae]. 14 Aug 1996. Denmark: Roskilde, Zealand.
- 6142 A Bruun Jensen (KVL 99-24). Adult, *Musca domestica* [Diptera: Muscidae]. 10 Oct 1998. Denmark: Annisse, Zealand.
- 6143 A Bruun Jensen (KVL 99-25). Adult, *Musca domestica* [Diptera: Muscidae]. 10 Oct 1998. Denmark: Annisse, Zealand.
- 6703 A Bruun Jensen (KVL 01-38). *Pollenia* sp. [Diptera: Calliphoridae]. 2 Oct 2000. Denmark: Hundested, Zealand.
- 6816 A Bruun Jensen (KVL 00-94). *Pollenia* sp. [Diptera: Calliphoridae]. 2 Oct 2000. Denmark: Hundested, Zealand.
- 6817 A Bruun Jensen (KVL 00-93). *Pollenia* sp. [Diptera: Calliphoridae]. 4 Oct 2000. Denmark: Hundested, Zealand.

Entomophthora syrphi Giard

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 5955 A Bruun Jensen (KVL 98-19). Adult, *Triglyphus*

primus [Diptera: Syrphidae]. 21 Aug 1998. Denmark: Zealand.

- 6702 A Bruun Jensen (KVL 01-36). *Platycheirus clypeatus* [Diptera: Syrphidae]. 9 Aug 2000. Denmark: Hegnstrup, Slangerup, Zealand.
- 6819 A Bruun Jensen (KVL 01-35). *Melanostoma scalare* [Diptera: Syrphidae]. Summer 2000. Denmark: Kalø, Jutland.
- 6820 A Bruun Jensen (KVL 01-34). *Melanostoma scalare* [Diptera: Syrphidae]. Summer 2000. Denmark: Kalø, Jutland.

Entomophthora thripidum Samson, Ramakers &

Oswald

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 5868 A Grundschober (ETH 601). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig.
- 6517 F Freimoser (ETH 602). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig.
- 6518 F Freimoser (ETH 603). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig.
- 6519 F Freimoser (ETH 604). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig.
- 6520 F Freimoser (ETH 605). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig.
- 6521 F Freimoser (ETH 607). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig. Re-isolate of ETH 603 [=ARSEF 6518] after passage through *Thrips tabaci*.
- 6522 F Freimoser (ETH 608). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig. Re-isolate of ETH 603 [=ARSEF 6518] after passage through *Thrips tabaci*.
- 6525 F Freimoser (ETH 606). *Thrips tabaci* [Thysanoptera: Thripidae]. 21 Apr 1998. Germany: Laboratory colony, BBA, Institut für Pflanzenschutz im Gartenbau, Braunschweig, Braunschweig.

Erynia aquatica (Anderson & Ringo in Anderson & Anagnostakis) Humber
[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Vegetative growth of this species is very sparse and slow. Strains should be in liquid tissue culture media incubated at 0-4°C.

750 RA Humber and RG Lawlor. Adult, *Aedes* sp. [Diptera: Culicidae]. Acc'd 10 Dec 1987. USA: Cambridge, New York.

764 RA Humber and RG Lawlor. Pupa, [Diptera: Culicidae]. Jun 1982. USA: Memorial Rock, Sapsucker Woods, Ithaca, New York.

Erynia conica (Nowakowski) Remaudière & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

1439 N Hywel-Jones (H84178-2). *Simulium* sp. [Diptera: Simuliidae]. Jun 1984. United Kingdom: Fingle Bridge (River Teign), Devon, England.

1752 S Keller (527). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.

1753 S Keller (528). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.

2274 EL Cuebas-Incle (III). Adult, [Diptera: Chironomidae]. 2 Oct 1985. USA: Six Mile Creek, Brooktondale, New York.

2275 EL Cuebas-Incle (IV). Gravid female, [Diptera: Simuliidae]. 2 Oct 1985. USA: Six Mile Creek, Brooktondale, New York.

2405 RI Samuels. Adult, [Diptera: Chironomidae]. Sep 1986. United Kingdom: Avon, England.

Erynia curvispora (Nowakowski) Remaudière & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

1754 S Keller (529). [Diptera: Simuliidae]. 24 Oct 1984. Switzerland.

3229 M Nadeau (222). Adult, [Diptera: Simuliidae]. 19 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.

3244 M Nadeau (241). Adult, [Trichoptera]. 20 Jun 1990. Canada: Réserve Faunique du Saint, Maurice, Québec.

Erynia ovispora (Nowakowski) Remaudière & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

399 S Keller (100). [Diptera: Psychodidae]. 12 Jun 1978. Switzerland.

400 S Keller (102). [Diptera: Psychodidae]. 12 Jun 1978. Switzerland.

Erynia rhizospora (Thaxter) Remaudière & Hennebert
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

219 LS Bauer. Adult, [Trichoptera]. Jun 1978. USA: Dover-Foxcroft, Maine.

801 EL Cuebas-Incle. Adult, [Trichoptera]. 24 Jul 1982. USA: outlet, Dryden Lake, Dryden, New York.

1440 RA Humber. Adult, [Trichoptera]. 2 Jul 1984. United Kingdom: Castle Drago (River Teign), Devon, England.

1441 RA Humber. Adult, [Trichoptera]. 2 Jul 1984. United Kingdom: Castle Drago (River Teign), Devon, England.

1442 E Descals (C-1756-4) and RA Humber. Adult, [Trichoptera]. 27 Jun 1984. Wales: polluted stream, Llanfair Caereinion, Powys.

1443 RA Humber. Adult, [Trichoptera]. 21 Jun 1984. United Kingdom: Steps Bridge, Devon, England.

2276 EL Cuebas-Incle (V). Adult, [Trichoptera]. 26 Jul 1985. USA: Michigan Hollow, Danby, New York.

2407 RI Samuels ← TB Clark and TC Reeves. Adult, [Trichoptera: Hydropsychidae]. Aug 1986. United Kingdom: Fingle Bridge (River Teign), Devon, England.

Erynia sciarae (Olive) Ben-Ze'ev & RG Kenneth
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

1870 N Wilding (80) ← G Remaudière. Adult, [Diptera: Mycetophilidae] on soil. 30 Sep 1976. Location not specified.

Eryniopsis caroliniana (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

640 [ARSEF 213 (deaccessioned)] S Keller (69). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 10 Aug 1981. Switzerland.

641 [ARSEF 424 (lost)] S Keller (41). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 10 Aug 1981. Switzerland.

642 [ARSEF 212 (deaccessioned)] S Keller (65). *Tipula paludosa* [Diptera: Tipulidae]. Rec'd 10 Aug 1981. Switzerland.

Eryniopsis ptychopterae S Keller & Eilenberg
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

2535 J Eilenberg (KVL 5). *Ptychoptera contaminata* [Diptera: Ptychopteridae]. 25 Aug 1986. Denmark: Kattinge Vig, Roskilde.

2671 J Eilenberg (KVL 48). *Ptychoptera contaminata* [Diptera: Ptychopteridae]. 9 Aug 1988. Denmark: Kattinge Vig, Roskilde.

Furia sp.

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

6211 Acc'd 17 Feb 2000.

Furia americana (Thaxter) Humber

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 742 [CNPAF 82-3-10-01; CP 32] RS Soper. [Diptera]. 10 Mar 1982. Brazil: CNPAF, Goiânia, Goiás.
1240 [CNPAF 84-03-30-4B; CP 140] DW Roberts. [Diptera]. 30 Mar 1984. Brazil: Francisco Beltrão, Paraná.
1242 [CNPAF 84-03-30-1A; CP 142] RA Daoust, BP Magalhães and DW Roberts. [Diptera]. 30 Mar 1984. Brazil: Francisco Beltrão, Paraná.
2192 [CNPAF 86-4-24; CP 202] SM dos Santos. [Diptera]. 24 Apr 1986. Brazil: CNPAF, Goiânia, Goiás.
2194 [CNPAF 86-5-21-A; CP 204] SM dos Santos. [Diptera]. 21 May 1986. Brazil: CNPAF, Goiânia, Goiás.

Furia gastropachae (Raciborski) Filotas, Hajek & Humber

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae. Synonym: *Furia crustosa* (MacLeod & Tyrrell) Humber

- 2906 FPMI. [Lepidoptera]. Acc'd 3 Apr 1990. Canada.
5541 M Filotas (NY I1). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
5542 M Filotas (NY I2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
5543 M Filotas (NY V). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
5544 M Filotas (NY Z). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. Apr 1997. USA: Tug Hill Plateau, Richland, New York. Host infected in laboratory upon exposure to germinating resting spores in field collected soil.
5545 M Filotas (MD97 S1-1). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 6 Jun 1997. USA: Snow Hill, Maryland.
5546 M Filotas (MD97 S1-2). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 6 Jun 1997. USA: Snow Hill, Maryland.
5547 M Filotas (CTLD A). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 19 Jun 1997. USA: State University of New York campus, Cortland, New York.

- 5869 [Forest Pest Management Institute FPMI 713] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 9 Jun 1982. Canada: Webbwood, Ontario.
5870 [Forest Pest Management Institute FPMI 922-1a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
5871 [Forest Pest Management Institute FPMI 922-2a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
5872 [Forest Pest Management Institute FPMI 922-3a] M Filotas. *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 20 Jun 1986. Canada: New Liskeard, Ontario.
8926 [ERL 1539b] VS Gouli (FTC). *Malacosoma disstria* [Lepidoptera: Lasiocampidae]. 2007. USA: Vermont.

Furia ithacensis (Kramer) Humber

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 1339 S Balazy (1561). [Diptera: Empididae] attached to the leaves of arboraceous plants. 22 May 1983. Poland: Bialowieza National Park.
1340 S Balazy (1561a). [Diptera: Empididae] attached to the leaves of arboraceous plants. 22 May 1983. Poland: Bialowieza National Park.
8606 KT Hodge. Rec'd 14 Jun 2007.

Furia neopyralidarum (Ben-Ze'ev) Humber

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 1145 M Shimazu (F-356). [Lepidoptera]. Acc'd 4 Apr 1984. Japan: Ibaraki Prefecture.

Furia pieris (Li & Humber) Humber

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 781 BF Usher. *Pieris rapae* [Lepidoptera: Pieridae]. 27 Aug 1982. USA: Ellis Hollow Rd, Community Gardens, Ithaca, New York.

Furia virescens (Thaxter) Humber

[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 394 S Keller (24). *Notostira elongata* [Hemiptera: Miridae]. 9 Oct 1975. Switzerland.
427 S Keller (250). Larva, [Lepidoptera]. Rec'd 6 Feb 1980. Switzerland.
470 S Keller (251). [Lepidoptera: Noctuidae]. Rec'd 27 May 1980. Switzerland.
1129 S Keller (416). [Lepidoptera: Noctuidae]. 18 Aug 1982. Switzerland.

Macrobotophthora vermicola (McCulloch) Tucker
[Entomophthoromycotina: Entomophthorales]
Ancylistaceae

650 EC Bernard. *Cruznema lambdiense* [Rhabditida: Rhabditidae]. 1977. USA: Tennessee.

Massospora cicadina Peck
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.

374 RS Soper. *Magiccada septendecim* [Homoptera: Cicadidae]. 16 Jun 1979. USA: Mohawk Lake Preserve, New Paltz, New York.

***Neozygites* sp.**
[Entomophthoromycotina: Entomophthorales]
Neozygitaceae. This culture is provided as hyphal bodies in a liquid tissue culture medium. Spores may be induced by plating hyphal bodies on solid media. Taxonomic criteria separating *Neozygites* species from mites are too poorly understood to allow specific identifications.

662 RA Humber ← DR Smitley. *Tetranychus urticae* [Acari: Tetranychidae]. 19 Oct 1981. USA: Raleigh, North Carolina.

***Neozygites floridana*(?)** (Weiser & Muma) Remaudière & S Keller
[Entomophthoromycotina: Entomophthorales]
Neozygitaceae

5201 DW Roberts (1). *Tetranychus urticae* [Acari: Tetranychidae]. Rec'd 6 Jul 1996. USA: Laboratory culture, Ithaca, New York.

5202 DW Roberts (2). *Tetranychus urticae* [Acari: Tetranychidae]. Rec'd 6 Jul 1996. USA: Laboratory culture, Ithaca, New York.

5376 DW Roberts (0). *Tetranychus urticae* [Acari: Tetranychidae]. Rec'd 3 Dec 1996. USA: Laboratory culture, Ithaca, New York.

6219 I Delalibera Junior (AB 10,11). Adult, female, *Mononychellus tanajoa* [Acari: Tetranychidae]. 30 Aug 1997. Brazil: Cruz das Almas, Bahia.

6220 I Delalibera Junior (AC 16). Adult, female, *Mononychellus tanajoa* [Acari: Tetranychidae]. 30 Aug 1997. Brazil: Cruz das Almas, Bahia.

6221 I Delalibera Junior (L 13). Adult, female, *Mononychellus tanajoa* [Acari: Tetranychidae]. 30 Aug 1997. Brazil: Cruz das Almas, Bahia.

Neozygites parvispora (DM MacLeod & KP Carl)
Remaudière & S Keller
[Entomophthoromycotina: Entomophthorales]
Neozygitaceae

5620 A Grundschober (301). *Thrips tabaci* [Thysanoptera: Thripidae] on *Allium porrum*. 17 Oct 1996. Switzer-

land: organic vegetable farm in Winkel, Bülach, Zurich.

5621 A Grundschober (302). *Thrips tabaci* [Thysanoptera: Thripidae] on *Allium porrum*. 17 Oct 1996. Switzerland: organic vegetable farm in Winkel, Bülach, Zurich.

6276 Acc'd 7 Jun 2000.

6277 Acc'd 7 Jun 2000.

6278 Acc'd 7 Jun 2000.

6279 Acc'd 7 Jun 2000.

6280 Acc'd 7 Jun 2000.

Neozygites tetranychii Weiser
[Entomophthoromycotina: Entomophthorales]
Neozygitaceae. This culture is provided as hyphal bodies in a liquid tissue culture medium. Spores may be induced by plating hyphal bodies on solid media. Identification of this species is provisional because of correspondence with the source of the strain and the original description of the species. This species was published without a Latin diagnosis and must still be validated nomenclaturally.

2677 J Weiser. *Tetranychus althaeae* [Acari: Tetranychidae]. 8 Nov 1988. Czech Republic: Dvory n. Zitavou.

***Pandora* sp.**
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

3201 GW Riethmacher (EB6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 13 May 1989. Philippines: La Trinidad, Benguet.

5812 [Diptera]. 10 Aug 1998. Denmark.

Pandora blunckii (Lakon ex Zimmerman) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

217 [ATCC 34698; CBS 194.77; IMI 211910] G Zimmermann (2). Larva, *Plutella maculipennis* [Lepidoptera: Plutellidae]. 27 Mar 1978. Germany: Gross-Bieberau, Darmstadt, Hesse. CULTURE EX NEOTYPE.

915 S Keller (426). *Athalia rosae* [Coleoptera: Elateridae]. 1 Sep 1982. Switzerland.

917 S Keller (425). *Athalia rosae* [Coleoptera: Elateridae]. 1 Sep 1982. Switzerland: Zürich.

920 S Keller (430). *Athalia rosae* [Coleoptera: Elateridae]. 1 Sep 1982. Switzerland: Zürich.

1000 J Aoki (Ent. 30) ← H Tomiyama. *Plutella xylostella* [Lepidoptera: Plutellidae]. Nov 1977. Japan: Fuchu, Tokyo Prefecture.

1004 [FPMI 752] J Aoki (Ent. 35) ← M Shimazu. Rec'd 7 Nov 1983. Japan: Chikugo, Fukuoka Prefecture.

1715 S Keller (514). *Athalia rosae* [Coleoptera: Elateridae]. 3 Oct 1984. Switzerland: Reckenholz, Zurich.

1716 S Keller (515). *Athalia rosae* [Coleoptera: Elateridae]. 3 Oct 1984. Switzerland: Reckenholz, Zurich.

1717 S Keller (516). *Athalia rosae* [Coleoptera: Elateridae]. 3 Oct 1984. Switzerland: Reckenholz, Zurich.

- 1718 S Keller (517). *Athalia rosae* [Coleoptera: Elateridae]. 3 Oct 1984. Switzerland: Reckenholz, Zurich.
- 2824 GW Riethmacher (EB4). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La Trinidad, Benguet. ARSEF 2776, *Fusarium* sp., also isolated from Riethmacher # EB4.
- 3075 DG Holdom. *Plutella* sp. [Lepidoptera: Plutellidae]. 27 Apr 1990. Australia: Lockyer Valley, Queensland.
- 3200 GW Riethmacher (EB3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Apr 1989. Philippines: La Trinidad, Benguet.
- 3202 GW Riethmacher (EB7). *Plutella xylostella* [Lepidoptera: Plutellidae]. 8 Jun 1989. Philippines: La Trinidad, Benguet.
- 6293 R Alatorre Rosas (Jav.1). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6294 R Alatorre Rosas (Jav.3). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6295 R Alatorre Rosas (Jav.4). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6296 R Alatorre Rosas (Jav.6). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6297 R Alatorre Rosas (Jav.7). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6298 R Alatorre Rosas (Jav.8). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6299 R Alatorre Rosas (Jav.9). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6300 R Alatorre Rosas (Jav.10). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6301 R Alatorre Rosas (Jav.11). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6302 R Alatorre Rosas (Jav.12). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6304 R Alatorre Rosas (Andres.2). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6305 R Alatorre Rosas (Andres.3). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6306 R Alatorre Rosas (Andres.5). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6307 R Alatorre Rosas (Andres.6). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6308 R Alatorre Rosas (Andres.7). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6309 R Alatorre Rosas (Bujanos.1). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6310 R Alatorre Rosas (Bujanos.3). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6311 R Alatorre Rosas (Bujanos.4). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6312 R Alatorre Rosas (Bujanos.5). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6316 R Alatorre Rosas (Mina.19). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- Pandora delphacis*** (Hori) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae
-
- 134 M Shimazu. *Nilaparvata lugens* [Homoptera: Delphacidae]. 1975. Japan: Fukuoka, Fukuoka Prefecture.
- 458 RS Soper. *Nephotettix cincticeps* [Homoptera: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 459 RS Soper. *Nephotettix cincticeps* [Homoptera: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 460 RS Soper. *Nephotettix cincticeps* [Homoptera: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 461 RS Soper. *Nephotettix cincticeps* [Homoptera: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 478 RS Soper (B). *Nephotettix cincticeps* [Homoptera: Cicadellidae]. 5 May 1980. Philippines: IRRI, Los Baños, Manila.
- 575 RS Soper (8132-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 2 Mar 1981. Indonesia: Desa Dasan Tereng Village, Kecamatan Narmada District, Lombok Island.
- 579 RS Soper (8132-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 2 Mar 1981. Indonesia: Desa Dasan Tereng Village, Kecamatan Narmada District, Lombok Island.
- 580 RS Soper (81223-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 23 Feb 1981. Indonesia: Bangun Village, Kecamatan Tanjung, Deliserdang District, Sumatera Utara, Sumatra.
- 593 [CSIRO EM654] RS Soper (8133-2). *Sogatella furcifera* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: Pangkep Kaba, Sulawesi Selatan, Celebes.

- 603 RS Soper (8133-2). *Sogatella furcifera* [Homoptera: Delphacidae]. 3 Mar 1981. Indonesia: Pangkep Kaba, Sulawesi Selatan, Celebes.
- 657 DW Roberts (101081-4). *Nilaparvata lugens* [Homoptera: Delphacidae]. 10 Oct 1981. PR China: Jansui, Jiangsu.
- 659 DW Roberts (101081-6-2). *Recilia dorsalis* [Homoptera: Cicadellidae]. 10 Oct 1981. PR China: Jansui, Jiangsu.
- 660 DW Roberts (101081-6-2). *Recilia dorsalis* [Homoptera: Cicadellidae]. 10 Oct 1981. PR China: Jiangsu.
- 664 DW Roberts (100881-4-3). *Nilaparvata lugens* [Homoptera: Delphacidae]. 8 Oct 1981. PR China: Chansha, Hunan.
- 665 DW Roberts (102181-9). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 666 DW Roberts (102181-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 667 DW Roberts (102181-6). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 668 DW Roberts (101081-3). *Nilaparvata lugens* [Homoptera: Delphacidae]. 10 Oct 1981. PR China: Nanjing, Jiangsu.
- 669 DW Roberts (102181-2). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 670 DW Roberts (101381-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 13 Oct 1981. PR China: Hangzhou, Zhijiang.
- 672 DW Roberts (101081-5-3). *Nilaparvata lugens* [Homoptera: Delphacidae]. 10 Oct 1981. PR China: Nanjing, Jiangsu.
- 673 DW Roberts (100981-3). *Nilaparvata lugens* [Homoptera: Delphacidae]. 9 Oct 1981. PR China: Nanjing, Jiangsu.
- 674 DW Roberts (100981-4). *Nilaparvata lugens* [Homoptera: Delphacidae]. 9 Oct 1981. PR China: Nanjing, Jiangsu.
- 676 DW Roberts (102181-5). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 682 DW Roberts (101081-2-3). *Nilaparvata lugens* [Homoptera: Delphacidae]. 10 Oct 1981. PR China: Nanjing, Jiangsu.
- 686 DW Roberts (101081-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 10 Oct 1981. PR China: Jiangsu.
- 698 *Nilaparvata lugens* [Homoptera: Delphacidae]. 11 Apr 1981. PR China: Wuhan, Hupei.
- 713 DW Roberts (102181-4). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 716 DW Roberts (100981-1). *Nilaparvata lugens* [Homoptera: Delphacidae]. 9 Oct 1981. PR China: Nanjing, Jiangsu.
- 1101 J Aoki (Ent. 36) ← M Shimazu. Acc'd 14 Mar 1984. Japan: Chikugo, Fukuoka Prefecture.
- 1124 M Shimazu (F-16). *Nilaparvata lugens* [Homoptera: Delphacidae]. Acc'd 29 Mar 1984. Japan: Fukuoka Prefecture.
- 1132 M Shimazu (F-32). *Nilaparvata lugens* [Homoptera: Delphacidae]. Acc'd 3 Apr 1984. Japan: Fukuoka Prefecture.
- 1133 M Shimazu (F-33). *Nilaparvata lugens* [Homoptera: Delphacidae]. Acc'd 3 Apr 1984. Japan: Fukuoka Prefecture.
- 1238 [CNPAF 84-04-13-1B; CP 138] DW Roberts. [Homoptera: Cicadellidae]. 13 Apr 1984. Brazil: CNPAF, Goiânia, Goiás.
- 1264 J Aoki (Ent. 6) ← M Shimazu. *Nilaparvata lugens* [Homoptera: Delphacidae]. Rec'd 7 Nov 1983. Japan: Chikugo, Fukuoka Prefecture.
- 1265 J Aoki (Ent. 7) ← H Tomiyama. *Mamestra brassicae* [Lepidoptera: Noctuidae]. Nov 1975. Japan: Fuchu, Tokyo Prefecture.
- 1268 M Shimazu (F-56). *Nilaparvata lugens* [Homoptera: Delphacidae]. Acc'd 3 May 1984. Japan: Chikugo, Fukuoka Prefecture.
- 1730 DW Roberts (26108) and MC Rombach. *Nilaparvata lugens* [Homoptera: Delphacidae]. 26 Oct 1984. India: greenhouse, All India Coop. Rice Inv. Project, Hyderabad, Andhra Pradesh.
- 1731 DW Roberts (26105) and MC Rombach. *Nilaparvata lugens* [Homoptera: Delphacidae]. 26 Oct 1984. India: greenhouse, All India Coop. Rice Inv. Project, Hyderabad, Andhra Pradesh.
- 1936 SG Wraight and SP Wraight (Q1). [Homoptera: Cicadellidae]. 31 May 1985. Brazil: CNPAF, Goiânia, Goiás.
- 2028 JA Harper. *Spissistilus festinus* [Homoptera: Membracidae]. Acc'd 28 Oct 1985. USA: Auburn, Alabama.
- 2046 P Taylor. Reisolate of ARSEF 579 passed through *Sogatodes oryzicola* [Homoptera: Delphacidae]. Acc'd 26 Nov 1985. Laboratory manipulation.
- 2047 P Taylor. Reisolate of ARSEF 579 passed through *Nilaparvata lugens* [Homoptera: Delphacidae]. Acc'd 26 Nov 1985. Laboratory manipulation.
- 2091 DG Holdom (200186-2). *Nilaparvata lugens* [Homoptera: Delphacidae]. 20 Jan 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2092 DG Holdom (260186-1). *Sogatella furcifera* [Homoptera: Delphacidae]. 26 Jan 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.

- 2093 DG Holdom (260186-2). *Sogatella furcifera* [Homoptera: Delphacidae]. 26 Jan 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2094 DG Holdom (270186). *Sogatodes pusanus* [Homoptera: Delphacidae]. 27 Jan 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2095 DG Holdom (020286). *Sogatella furcifera* [Homoptera: Delphacidae]. 2 Feb 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2096 DG Holdom (060286). *Sogatella furcifera* [Homoptera: Delphacidae]. 6 Feb 1986. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 2409 DG Holdom (310187-1). *Sogatella furcifera* [Homoptera: Delphacidae]. 31 Jan 1987. Indonesia: CIBA-GEIGY R & D Station, Cikampek, Jawa Barat, Java.
- 3062 M Wheeler. [Hemiptera: Miridae]. 13 Aug 1990. USA: Snapp field # 2D, Newark Valley, New York.
- 3072 M Wheeler ← H Firstencel. *Empoasca fabae* [Homoptera: Cicadellidae]. 7 Aug 1990. USA: Snapp field # 8A, Newark Valley, New York.
- 3093 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 11 Sep 1990. USA: Snapp field # 5G, Newark Valley, New York.
- 3094 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 11 Sep 1990. USA: Snapp field # 4G, Newark Valley, New York.
- 3095 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 10 Sep 1990. USA: Hoffman field # 2B, Catherine, New York.
- 3096 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 10 Sep 1990. USA: Hoffman field # 1G, Catherine, New York.
- 3106 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 20 Sep 1990. USA: Hoffman field # 4C, Catherine, New York.
- 3107 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 28 Sep 1990. USA: Hoffman field # 1B, Catherine, New York.
- 3484 G Lorenz. *Spissistilus festinus* [Homoptera: Membracidae] on soybeans (*Glycine max*). 18 Oct 1991. USA: Lonoke County, Arkansas.
- 6538 MG Feng (F95125). *Sogatella furcifera* [Homoptera: Delphacidae] on late-season rice. Fall 1995. PR China: Fuyang, Zhejiang Province.
- 6539 MG Feng (F95129). *Sogatella furcifera* [Homoptera: Delphacidae] on late-season rice. 6 Nov 1995. PR China: Fuyang, Zhejiang Province.

Pandora dipterigena (Thaxter) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 131 N Wilding (1). [Diptera]. 24 Aug 1976. USA: Rogers Farm, Stillwater, Maine.
- 397 [ARSEF ?1066] S Keller (92). [Diptera: Nematocera]. 5 Jun 1978. Switzerland.
- 1422 S Balazy (1496c). [Diptera: Brachycera] attached to the underside of lime tree leaf in deciduous forest undergrowth. 4 Jun 1982. Poland: Bialowieza National Park.
- 1720 S Keller (521). [Diptera]. 18 Oct 1984. Switzerland: Trasadingen, Schaffhausen.
- 1887 M Shimazu. [Diptera: ?Sciaridae]. 1 Jun 1985. USA: Allegany State Park, Salamanca, New York.
- 1921 M Shimazu (FE3). [Diptera]. 20 Jun 1985. USA: Allegany State Park, Salamanca, New York.
- 1923 M Shimazu (FE1). [Diptera]. Summer 1985. USA: Allegany State Park, Salamanca, New York.
- 2406 RI Samuels. Adult, [Trichoptera]. Aug 1986. United Kingdom: Avon, England.

Pandora heteropterae (Balazy) S Keller
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 9266 JJ Hannam. *Lygus lineolaris* [Hemiptera: Miridae] collected from weeds on the edge of cornfield. 1 Sep 2008. USA: Johnson County, Arkansas. 35°23'34" N, 93°42'03" W.

Pandora kondoiensis (Milner, Mahon, & Brown)
Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 369 [ARSEF 825] CSIRO (EM507) ← R Teakle. *Acyrtosiphon kondoi* [Homoptera: Aphididae]. 5 Oct 1977. Australia: Brisbane, Queensland.
- 825 [ARSEF 369] CSIRO (EM507) ← R Teakle. *Acyrtosiphon kondoi* [Homoptera: Aphididae]. 5 Oct 1977. Australia: Brisbane, Queensland.
- 828 CSIRO (EM598) ← RD Hughes. *Acyrtosiphon kondoi* [Homoptera: Aphididae] on lucerne. 31 Jul 1980. Australia: Dubbo, New South Wales.
- 836 CSIRO (EM635) ← G Lutton. *Acyrtosiphon kondoi* [Homoptera: Aphididae] on lucerne. 29 Sep 1981. Australia: 2 km SW of Gundagai, New South Wales.
- 837 CSIRO (EM600) ← RD Hughes. *Acyrtosiphon kondoi* [Homoptera: Aphididae] on lucerne. 31 Jul 1980. Australia: Dubbo, New South Wales.

Pandora neoaphidis (Remaudière & Hennebert) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 78 RG Kenneth (E.a. 11) or (3072) ← A Uziel. [Homop-

- tera: Aphididae] on *Solanum hirsutum*. Mar 1976. Israel: potato field, Achuzam.
- 128 [IPLB 52] JP Latgé and G Remaudière. *Aphis* sp. [Homoptera: Aphididae] on *Cornus* sp. [Cornaceae]. 26 Aug 1976. Canada: Saint-Gédéon, Québec.
- 181 FR Holbrook. *Macrosiphum euphorbiae* [Homoptera: Aphididae]. 9 Aug 1977. USA: Maine.
- 381 RS Soper. [Homoptera: Aphididae]. 26 Feb 1979. Australia.
- 608 I Majchrowicz (80). *Aphis fabae* [Homoptera: Aphididae]. Jul 1980. Poland: Szczecin.
- 609 I Majchrowicz (81). *Aphis fabae* [Homoptera: Aphididae]. Jul 1980. Poland: Szczecin.
- 610 I Majchrowicz (82). *Aphis fabae* [Homoptera: Aphididae]. Jul 1980. Poland: Szczecin.
- 611 I Majchrowicz (87). *Aphis fabae* [Homoptera: Aphididae]. Aug 1980. Poland: Szczecin.
- 612 I Majchrowicz (88). *Aphis fabae* [Homoptera: Aphididae]. Aug 1980. Poland: Szczecin.
- 613 I Majchrowicz (90). *Aphis fabae* [Homoptera: Aphididae]. Aug 1980. Poland: Szczecin.
- 614 I Majchrowicz (91). *Aphis fabae* [Homoptera: Aphididae]. Aug 1980. Poland: Szczecin.
- 636 I Majchrowicz (102). *Aphis fabae* [Homoptera: Aphididae]. 3 Jul 1981. Poland: Szczecin.
- 637 I Majchrowicz (103). *Aphis fabae* [Homoptera: Aphididae]. 6 Jul 1981. Poland: Stanpanel.
- 638 [CSIRO EM653] I Majchrowicz (104). *Aphis fabae* [Homoptera: Aphididae]. 16 Jul 1981. Poland: Gumience, Szczecin.
- 639 I Majchrowicz (105). *Aphis fabae* [Homoptera: Aphididae]. 18 Jul 1981. Poland: Gryfino, Szczecin.
- 827 CSIRO (EM717) ← RJ Huppertz. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 11 Jan 1982. Australia: 30 km from Deniliquin, Echuca, New South Wales.
- 829 CSIRO (EM736) ← LT Woolcock. *Hyperomyzus lactucae* [Homoptera: Aphididae]. 29 Nov 1982. Australia: Murwillumbah, New South Wales.
- 830 CSIRO (EM723) ← RJ Huppertz. *Acyrtosiphon pisum* [Homoptera: Aphididae]. Fall 1982. Australia: Hamilton, Victoria.
- 833 [CSIRO EM739] RJ Milner. *Hyperomyzus lactucae* [Homoptera: Aphididae]. 8 Nov 1982. Chile: airport, Easter Island.
- 835 CSIRO (EM633) ← L Shu-Sheng. *Hyperomyzus lactucae* [Homoptera: Aphididae] on *Sonchus* sp. 18 Jun 1981. Australia: Black Mountain, Canberra, Australian Capital Territory.
- 838 CSIRO (EM670) ← G Lutton. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 13 Apr 1982. Australia: Murrumbateman, New South Wales.
- 993 J Aoki (Ent. 25) ← K Nakamura. *Uroleucon formosanus* [Homoptera: Aphididae]. Jul 1977. Japan: Hino, Tokyo Prefecture.
- 1134 M Shimazu (F-36). *Macrosiphum akebiae* [Homoptera: Aphididae]. Acc'd 3 Apr 1984. Japan: Fukuoka Prefecture.
- 1137 M Shimazu (F-54). *Dactynotus formosanus* [Homoptera: Aphididae]. Acc'd 3 Apr 1984. Japan: Tokyo Prefecture.
- 1570 DW Roberts ← F Messina. *Lygus* sp. [Hemiptera: Miridae] on cowpea. 31 Aug 1984. USA: Ithaca, New York.
- 1596 I Majchrowicz (34). Pterygotes, *Hyalopterus pruni* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France.
- 1597 I Majchrowicz (37). Apterygotes, *Sitobion* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984.
- 1598 I Majchrowicz (50). Pterygotes, *Acyrtosiphon pisum* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: Bezreus, Avignon.
- 1600 I Majchrowicz (164). Pterygotes, *Myzus persicae* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. Portugal: nr. Trofa.
- 1601 I Majchrowicz (170). Apterygotes, *Myzus* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. Spain: nr. St. Amalia.
- 1602 I Majchrowicz (172). Apterygotes, *Myzus* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. Spain: nr. St. Amalia.
- 1603 I Majchrowicz (178). Apterygotes, *Acyrtosiphon pisum* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. Spain: nr. St. Amalia.
- 1604 I Majchrowicz (201). Apterygotes, *Sitobion* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1605 I Majchrowicz (211). Pterygotes, *Acyrtosiphon pisum* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1606 I Majchrowicz (216). Apterygotes, *Aphis fabae* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1607 I Majchrowicz (224). Apterygotes, *Macrosiphum* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1609 I Majchrowicz (230). Apterygotes, *Acyrtosiphon pisum* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1610 I Majchrowicz (236). Apterygotes, *Aphidula* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1611 I Majchrowicz (246). Apterygotes, *Aphis fabae* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1612 I Majchrowicz (251). Apterygotes, *Macrosiphum* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1613 I Majchrowicz (257). Pterygotes, *Brevicoryne brassicae* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.

- 1615 I Majchrowicz (263). Apterygotes, *Aphidula* sp. [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1616 I Majchrowicz (269). Apterygotes, *Brevicoryne brassicae* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1617 I Majchrowicz (275). Apterygotes, *Brevicoryne brassicae* [Homoptera: Aphididae]. Acc'd 19 Sep 1984. France: La Minière.
- 1618 I Majchrowicz (260 4.08). Acc'd 19 Sep 1984. Location not specified.
- 1695 IL Sivcev (217). Alate, [Homoptera: Aphididae] on cabbage. 10 Jul 1984. Yugoslavia: PKB Commune, E. Belgrade.
- 1696 IL Sivcev (R-1). Alate, [Homoptera: Aphididae] on roses. 7 Jun 1984. Yugoslavia: laboratory, Zemun, Belgrade.
- 1784 IL Sivcev (281). Alate, *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 8 Oct 1984. Yugoslavia: PKB Commune, E. Belgrade.
- 1785 IL Sivcev (278). Alate, *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 8 Oct 1984. Yugoslavia: PKB Commune, E. Belgrade.
- 1786 IL Sivcev (271). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 8 Oct 1984. Yugoslavia: PKB Commune, E. Belgrade.
- 1824 IL Sivcev (V-11). 4th instar larva, *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 11 Oct 1984. Yugoslavia: Veternik.
- 1825 IL Sivcev (F-19). 4th instar larva, *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 11 Oct 1984. Yugoslavia: Futog.
- 1826 IL Sivcev (F-34). 3rd instar larva, *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 11 Oct 1984. Yugoslavia: Futog.
- 1827 IL Sivcev (F-30). 3rd instar larva, *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 11 Oct 1984. Yugoslavia: Futog.
- 1981 TJ Poprawski (0184). Nymph, *Aphis fabae* [Homoptera: Aphididae]. Acc'd 25 Sep 1985. France: La Minière.
- 1985 TJ Poprawski (0188). Nymph, *Aphis fabae* [Homoptera: Aphididae]. Acc'd 25 Sep 1985. France: La Minière.
- 1986 TJ Poprawski (0189). Nymph, *Macrosiphum rosae* [Homoptera: Aphididae]. Acc'd 25 Sep 1985. France: La Minière.
- 1987 TJ Poprawski (0190). Nymph, *Macrosiphum rosae* [Homoptera: Aphididae]. Acc'd 25 Sep 1985. France: La Minière.
- 2016 IL Sivcev (21/85). [Homoptera: Aphididae] on *Cychorium intibus*. 3 Jul 1985. Yugoslavia: Zemun, Belgrade.
- 2017 IL Sivcev (74/85). *Acyrtosiphon pisum* [Homoptera: Aphididae] on pea. 5 Jul 1985. Yugoslavia: Micunovo, Voyvodina.
- 2018 IL Sivcev (76/85). *Acyrtosiphon pisum* [Homoptera: Aphididae] on pea. 5 Jul 1985. Yugoslavia: Micunovo, Voyvodina.
- 2019 IL Sivcev (63/85). *Aphis fabae* [Homoptera: Aphididae] on poppy. 5 Jul 1985. Yugoslavia: Micunovo, Voyvodina.
- 2020 IL Sivcev (65/85). *Aphis fabae* [Homoptera: Aphididae] on poppy. 5 Jul 1985. Yugoslavia: Micunovo, Voyvodina.
- 2085 TJ Poprawski (0191). Nymph, *Myzus persicae* [Homoptera: Aphididae] in alfalfa field. Acc'd 18 Feb 1986. Spain: Ciudad Real.
- 2086 TJ Poprawski (0193). Nymph, *Myzus persicae* [Homoptera: Aphididae] in alfalfa field. Acc'd 18 Feb 1986. Spain: Ciudad Real.
- 2108 IL Sivcev (174/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 14 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2109 IL Sivcev (184/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 14 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2110 IL Sivcev (185/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 14 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2112 IL Sivcev (229/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 21 Oct 1986. Yugoslavia: Zemun, Belgrade.
- 2114 IL Sivcev (271/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2115 IL Sivcev (280/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2116 IL Sivcev (282/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2117 IL Sivcev (284/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2118 IL Sivcev (291/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2119 IL Sivcev (294/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2120 IL Sivcev (297/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2121 IL Sivcev (301/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.
- 2122 IL Sivcev (304/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 30 Oct 1985. Yugoslavia: Zemun, Belgrade.

- 2123 IL Sivcev (198/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 17 Oct 1985. Yugoslavia: Bijeljina, Bosnia and Hercegovina.
- 2124 IL Sivcev (249/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 25 Oct 1985. Yugoslavia: Futog.
- 2128 IL Sivcev (261/85). *Brevicoryne brassicae* [Homoptera: Aphididae] on cabbage. 25 Oct 1985. Yugoslavia: Futog.
- 2280 IL Sivcev (46/86). *Brevicoryne brassicae* [Homoptera: Aphididae]. 23 Jun 1986. Yugoslavia: PKB commune, Zemun, Belgrade.
- 2293 IL Sivcev (53/86). *Brevicoryne brassicae* [Homoptera: Aphididae]. 23 Jun 1986. Yugoslavia: PKB commune, Zemun, Belgrade.
- 2298 IL Sivcev. [Homoptera: Aphididae]. Acc'd 18 Nov 1986. Yugoslavia: PKB commune, Zemun, Belgrade.
- 2583 K Hural (HG7202). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2584 K Hural (HG7203). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2585 K Hural (HG7204). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2587 K Hural (HG7207). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2588 K Hural (HG7208). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2589 K Hural (HG7209). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2591 K Hural (HG72011). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2592 K Hural (HG72012). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2593 K Hural (HG72013). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2594 K Hural (HG72014). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 20 Jul 1988. USA: Lansing, New York.
- 2754 K Hural (Au-7). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 24 May 1989. USA: Aurora, New York.
- 2755 K Hural (FR-14). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2756 K Hural (Ma-1). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 11 Jul 1989. USA: Malone, New York.
- 2757 K Hural (Au-15). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2758 K Hural (FR-7). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2760 K Hural (Au-8). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 24 May 1989. USA: Aurora, New York.
- 2761 K Hural (Au-6). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 24 May 1989. USA: Aurora, New York.
- 2762 K Hural (Au-1). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 24 May 1989. USA: Aurora, New York.
- 2763 K Hural (FR-12). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2766 K Hural (Au-10). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2767 K Hural (Au-14). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2768 K Hural (Au-11). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2769 K Hural (Au-21). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2773 K Hural (FR-4). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2781 K Hural (Au-20). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2782 K Hural (Fe-2). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 11 Jul 1989. USA: Malone, New York.
- 2783 K Hural (Ma-2). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 11 Jul 1989. USA: Malone, New York.
- 2784 K Hural (Au-17). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 7 Jun 1989. USA: Aurora, New York.
- 2837 K Hural (Au-28). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Aurora, New York.
- 2838 K Hural (Au-26). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Aurora, New York.
- 2839 K Hural (Au-27). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Aurora, New York.

- 2840 K Hural (FR-16). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2842 K Hural (FR-18). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2844 K Hural (FR-19). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2845 K Hural (FR-20). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2846 K Hural (FR-21). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2847 K Hural (Au-29). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Aurora, New York.
- 2848 K Hural (Au-24). *Acyrtosiphon pisum* [Homoptera: Aphididae]. 7 Jun 1989. USA: Aurora, New York.
- 2851 K Hural (FR-10). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2852 K Hural (FR-1). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2853 K Hural (FR-22). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2854 K Hural (Au-4). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 24 May 1989. USA: Aurora, New York.
- 2855 K Hural (Au-30). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Aurora, New York.
- 2856 K Hural (MP-2). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Jun 1989. USA: Ithaca, New York.
- 2865 K Hural (FR-23). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2866 K Hural (FR-24). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2867 K Hural (FR-25). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2868 K Hural (EW-5). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 30 May 1989. USA: Trumansburg, New York.
- 2870 K Hural (FR-8). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 26 May 1989. USA: Ithaca, New York.
- 2872 K Hural (FR-26). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 2873 K Hural (MP-5). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 16 Jun 1989. USA: Ithaca, New York.
- 2874 MG Feng (MD8930). *Metopolophium dirhodum* [Homoptera: Aphididae]. Jul 1989. USA: Parma, Idaho.
- 2875 MG Feng (MD8931). *Metopolophium dirhodum* [Homoptera: Aphididae]. Jul 1989. USA: Parma, Idaho.
- 2876 MG Feng (MD8932). *Metopolophium dirhodum* [Homoptera: Aphididae]. Jul 1989. USA: Parma, Idaho.
- 3081 SP Wraight. *Diuraphis noxia* [Homoptera: Aphididae]. 18 Jul 1990. USA: irrigated barley field, Piedmont Organic Produce Farm, Wellington, Colorado.
- 3082 SP Wraight. *Diuraphis noxia* [Homoptera: Aphididae]. 28 Jun 1990. USA: non-irrigated barley field, George Varra farm, Fort Collins, Colorado.
- 3126 G Mercadier and TJ Poprawski (9014). *Diuraphis noxia* [Homoptera: Aphididae] on *Hordeum murinum*. 10 May 1990. France: Montpellier, Hérault.
- 3174 G Mercadier and TJ Poprawski (9015). *Diuraphis noxia* [Homoptera: Aphididae] on wheat. 11 May 1990. France: Montpellier, Hérault.
- 3175 G Mercadier and TJ Poprawski (9016). *Diuraphis noxia* [Homoptera: Aphididae] on *Agropyron repens*. 11 May 1990. France: Montpellier, Hérault.
- 3234 I Majchrowicz (28). *Acyrtosiphon pisum* [Homoptera: Aphididae] on pea. Jul 1991. USA: Morgan Farm, Mt. Vernon, Washington.
- 3237 I Majchrowicz (32). *Acyrtosiphon pisum* [Homoptera: Aphididae] on pea. Jul 1991. USA: Dave Boon, Mt. Vernon, Washington.
- 3238 I Majchrowicz (37). *Aphis fabae* [Homoptera: Aphididae] on pineapple weed. Jul 1991. USA: Morgan Farm, Mt. Vernon, Washington.
- 3240 I Majchrowicz (58). *Acyrtosiphon pisum* [Homoptera: Aphididae] on bean. 31 Jul 1991. USA: garden nr. University of Idaho, Moscow, Idaho.
- 3241 I Majchrowicz (83). *Aphis fabae* [Homoptera: Aphididae] on *Chenopodium album*. 10 Aug 1991. USA: nr. cages, Yakima, Washington.
- 3248 DC Steinkraus (1). *Myzus persicae* [Homoptera: Aphididae] on turnip greens. 28 Nov 1990. USA: Washington County, Arkansas.
- 3249 DC Steinkraus (2). *Myzus persicae* [Homoptera: Aphididae] on turnip greens. 28 Nov 1990. USA: Washington County, Arkansas.
- 3250 DC Steinkraus (5). *Myzus persicae* [Homoptera: Aphididae] on turnip greens. 28 Nov 1990. USA: Washington County, Arkansas.
- 3251 DC Steinkraus (6). *Myzus persicae* [Homoptera: Aphididae] on turnip greens. 28 Nov 1990. USA: Washington County, Arkansas.

- 3365 N Underwood ← SP Wraight. *Metopolophium dirhodum* [Homoptera: Aphididae] on late-sown spring wheat. 9 Jul 1991. USA: SW Idaho R/E Center, Parma, Idaho.
- 3366 N Underwood ← SP Wraight. *Schizaphis graminum* [Homoptera: Aphididae] on late-sown spring wheat. 5 Jul 1991. USA: SW Idaho R/E Center, Parma, Idaho.
- 3367 N Underwood ← SP Wraight. *Metopolophium dirhodum* [Homoptera: Aphididae] on late-sown spring wheat. 5 Jul 1991. USA: SW Idaho R/E Center, Parma, Idaho.
- 3410 I Majchrowicz (71). *Aphis* sp. [Homoptera: Aphididae] on *Tanacetum vulgare* L. 8 Aug 1991. USA: Bellingham, Washington.
- 3411 I Majchrowicz (8) ← GL Nordin. *Myzus nicotinae* [Homoptera: Aphididae]. Rec'd 20 Sep 1991. USA: Kentucky.
- 3412 I Majchrowicz ← GL Nordin. *Myzus nicotinae* [Homoptera: Aphididae]. Rec'd 20 Sep 1991. USA: Kentucky.
- 3459 I Majchrowicz (10) ← GL Nordin. *Myzus nicotinae* [Homoptera: Aphididae]. Rec'd 20 Sep 1991. USA: Kentucky.
- 4934 [IACR-Rothamsted NW 231] JK Pell (NW 231). *Acyrtosiphon pisum* [Homoptera: Aphididae]. 24 Mar 1995. Laboratory manipulation: Reisolation.
- 5371 C Nielsen (KVL 1996-1). *Brevicoryne brassicae* [Homoptera: Aphididae]. 22 Sep 1996. Denmark: Hegnstrup, Slangerup, Zealand.
- 5372 C Nielsen (KVL 1996-2). *Brevicoryne brassicae* [Homoptera: Aphididae]. 20 Sep 1996. Denmark: Hegnstrup, Slangerup, Zealand.
- 5373 C Nielsen (KVL 1996-3). *Brevicoryne brassicae* [Homoptera: Aphididae]. 20 Sep 1996. Denmark: Hegnstrup, Slangerup, Zealand.
- 5374 C Nielsen (KVL 1996-4). *Brevicoryne brassicae* [Homoptera: Aphididae]. 11 Oct 1996. Denmark: Hegnstrup, Slangerup, Zealand.
- 5403 C Nielsen. *Sitobion avenae* [Homoptera: Aphididae] on *Hordeum murinum* L. Aug 1995. Denmark: Copenhagen, Valbyparken, Zealand.
- 5707 JL Hatting (5). *Metopolophium dirhodum* [Homoptera: Aphididae] on *Triticum aestivum* L. 4 Sep 1997. South Africa: Riviersonderend, Western Cape Province.
- 5708 JL Hatting (6). *Metopolophium dirhodum* [Homoptera: Aphididae] on *Triticum aestivum*. 4 Sep 1998. South Africa: Riviersonderend, Western Cape Province.
- 5995 C Nielsen (KVL 98-21). Alate, *Aphis fabae* [Homoptera: Aphididae] on *Euonymus europaea*. 9 Oct 1998. Denmark: Copenhagen, Zealand.
- 6166 K Dromph (KVL 633). *Sitobion avenae* [Homoptera: Aphididae] on *Hordeum murinum*. 13 Aug 1995. Denmark: Valbyparken, Copenhagen, Zealand.
- 6631 PS Duetting (G1). *Acyrtosiphon pisum* [Homoptera: Aphididae] on *Pisum sativum* cv. Columbia, garden peas. 25 Jun 2000. USA: University of Idaho Kambitsch Research Farm, Latah County, Idaho.
- 6902 MR McGuire. [Homoptera: Aphididae] from roadside patch of *Malva* sp., mallow. 7 Feb 2001. USA: Intersection of Road 14 and Avenue 22, Madera County, California. Live aphids collected were a mixture of *Myzus persicae* Sulzer and *Aphis gossypii* Glover.
- 7212 AE Hajek (03 NY 7-3-4). *Aphis glycines* [Homoptera: Aphididae]. 7 Aug 2003. USA: Field number 4, North Rose, New York.
- 7213 AE Hajek (03 NY 7-4-1). *Aphis glycines* [Homoptera: Aphididae]. 7 Aug 2003. USA: Field number 4, North Rose, New York.
- 7214 AE Hajek (03 NY 7-4-2). *Aphis glycines* [Homoptera: Aphididae]. 26 Aug 2003. USA: Field number 4, North Rose, New York.
- 7226 AE Hajek (03 NY 7-4-3). *Aphis glycines* [Homoptera: Aphididae]. 27 Aug 2003. USA: Field number 4, North Rose, New York.
- 7937 *Acyrtosiphon pisum* [Homoptera: Aphididae]. 16 Jul 1998. Switzerland: Zurich.
- 7938 *Microlophium carnosum* [Homoptera: Aphididae]. 2 Jul 1996. Switzerland: Schaffhausen.
- 7939 16 Jul 1998. Switzerland: Zurich.
- 8607 AE Hajek (03 NY 7-3-4). *Aphis glycines* [Homoptera: Aphididae]. 7 Aug 2003. USA: Field number 4, North Rose, New York.

Pandora nouryi (Remaudière & Hennebert) Humber
[Entomophthoromycotina: Entomophthorales]
Entomophthoraceae

- 199 [CSIRO EM652] RT Mietkiewski. [Homoptera: Aphididae] on potato. 1 Sep 1977. USA: Rogers Farm, Stillwater, Maine.
- 362 CSIRO (EM538) ← R Teakle. *Acyrtosiphon kondoi* [Homoptera: Aphididae]. Rec'd 1979. Australia: Gatton, Queensland.
- 366 [IPLB 1066] CSIRO (EM542) ← JP Latgé. *Theerioaphis maculata* [Homoptera: Aphididae]. Rec'd 22 Jan 1979. USA.
- 8930 MG Feng (ZJU0603) and ZH Huang. Air-trapped alate, *Lipaphis erysimi* [Homoptera: Aphididae]. 23 Mar 2006. PR China: Menghai County, Yunnan Province.
- 8931 MG Feng (ZJU0604) and ZH Huang. Air-trapped alate, *Lipaphis erysimi* [Homoptera: Aphididae]. Jun 2006. PR China: Menghai County, Yunnan Province.

Schizangiella sp.

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 2237 R Blaschke-Hellmessen (1). *Elaphe* sp. [Squamata: Colubridae] from granuloma in gut. Rec'd 30 Sep 1986. Germany: Dresden.
- 2239 R Blaschke-Hellmessen (14). *Elaphe* sp. [Squamata: Colubridae] from granuloma in gut. Acc'd 30 Sep 1986. Germany: Dresden.

Schizangiella serpentis Humber (sp. nov., unpubl.)

[Entomophthoromycotina: Entomophthorales]

Basidiobolaceae

- 203 AA Padhye (CDC 76-075022). Female adult, *Crotalus horridus* [Squamata: Viperidae]. May 1974. USA: Baltimore Zoological Park, Baltimore, Maryland.
- 8000 B Burwell ← R Legge. *Elaphe obsoleta* [Squamata: Colubridae]. 23 Feb 2006. USA: Powhatan School, Boyce, Virginia.
- 8047 B Burwell ← R Legge. *Elaphe obsoleta* [Squamata: Colubridae]. 14 Jun 2006. USA: Powhatan School, Boyce, Virginia. Isolated during necropsy of snake from which ARSEF 8000 was previously obtained.

Strongwellsea castrans Batko & Wiser

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae. Strains are provided as vegetative protoplasts in liquid tissue culture medium. No sustainable growth of walled hyphae, conidia, or resting spores has been produced by cultures.

- 3282 J Eilenberg (KVL 62). *Delia radicum* [Diptera: Anthomyiidae]. 8 Sep 1988. Denmark: Roskilde, Zealand.
- 3485 J Eilenberg (KVL 84). *Delia radicum* [Diptera: Anthomyiidae]. Aug 1991. Denmark: Slangerup, Frederiksberg.

Zoophthora sp.

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae.

- 3486 J Eilenberg (KVL 79). *Forficula auricularia* [Dermoptera: Forficulidae]. Sep 1991. Denmark: Ølstykke, Frederiksberg.
- 3487 J Eilenberg (KVL 80). *Forficula auricularia* [Dermoptera: Forficulidae]. Sep 1991. Denmark: Ølstykke, Frederiksberg.
- 3488 J Eilenberg (KVL 81). *Forficula auricularia* [Dermoptera: Forficulidae]. Sep 1991. Denmark: Ølstykke, Frederiksberg.
- 7454 [CEP 127] C López Lastra. [Homoptera: Aphididae] on *Brassica oleracea* L., cabbage crop. 20 Apr 2004. Argentina: Parque Pereyra, Berazategui, Buenos Aires. **RESTRICTED ACCESS:** consult *Curator*.

Zoophthora anglica (Petch) Ben-Ze'ev & RG Kenneth

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 396 [ARSEF ?1377] S Keller (48). *Agriotes sputator* [Coleoptera: Elateridae]. 4 May 1977. Switzerland.
- 916 S Keller (411). *Notostira elongata* [Hemiptera: Miridae]. 25 Aug 1982. Switzerland.
- 926 S Keller (412). *Notostira elongata* [Hemiptera: Miridae]. 25 Aug 1982. Switzerland.
- 1739 N Wilding (85). *Trechus quadristriatus* [Coleoptera: Carabidae]. 5 Sep 1978. United Kingdom: Rothamsted Experimental Station, Hertfordshire, England.
- 2505 J Eilenberg (KVL 12). *Agriotes sputator* [Coleoptera: Elateridae]. 2 Jun 1986. Denmark: Brogaard, Fårevøjle, Vestsjælland.

Zoophthora aphidis (Hoffman in Fresenius) Humber &

Ben-Ze'ev

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 425 [ARSEF 467 (lost), 643 (lost); CSIRO EM740] S Keller (84). *Anoecia corni* [Homoptera: Aphididae]. Rec'd 6 Feb 1980. Switzerland.

Zoophthora lanceolata (S Keller) Humber & Ben-Ze'ev

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 426 [ARSEF ?468] S Keller (95). [Diptera: Nematocera]. Rec'd 6 Feb 1980. Switzerland: Rickenbach.
- 468 [ARSEF ?426] S Keller (95) ← G Remaudière. [Diptera: Brachycera]. Oct 1977. France.
- 469 S Keller (115). [Diptera: Nematocera]. Rec'd 27 May 1980. Switzerland: Rickenbach.

Zoophthora occidentalis (Thaxter) Humber & Ben-

Ze'ev

[Entomophthoromycotina: Entomophthorales]

Entomophthoraceae

- 207 [CSIRO EM680] RT Mietkiewski. *Macrosiphum euphorbiae* [Homoptera: Aphididae] on potato. 20 Sep 1977. USA: Rogers Farm, Stillwater, Maine.
- 2841 K Hural (FR-17). *Acyrtosiphon pisum* [Homoptera: Aphididae] on alfalfa. 5 Sep 1989. USA: Ithaca, New York.
- 3027 H Firstencel. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 26 Jun 1990. USA: Freese Rd., Ithaca, New York.
- 3028 H Firstencel. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 11 Jul 1990. USA: Stevenson Rd., Ithaca, New York.
- 3029 H Firstencel. *Acyrtosiphon pisum* [Homoptera: Aphididae]. 25 Jun 1990. USA: P-field, Aurora, New York.

- 3071 K Hural. *Acyrthosiphon pisum* [Homoptera: Aphididae] on alfalfa. 18 Sep 1990. USA: Hoffman field # 6G, Catherine, New York.
- 3073 K Hural. *Acyrthosiphon pisum* [Homoptera: Aphididae] on alfalfa. 18 Sep 1990. USA: Hoffman field # 7E, Catherine, New York.
- Zoophthora phalloides*** (Batko) Humber, Ben-Ze'ev & RG Kenneth in Humber & Ben-Ze'ev [Entomophthoromycotina: Entomophthorales] Entomophthoraceae
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- 352 [ARSEF 1869 (lost)] CSIRO (EM681) or (EM548) ← N Wilding (27). *Myzus rannaculinum* [Homoptera: Aphididae]. 12 May 1978. France: Rennes, Ille-et-Vilaine.
- 2281 IL Sivcev (52/86). *Brevicoryne brassicae* [Homoptera: Aphididae]. 23 Jun 1986. Yugoslavia: PKB commune, Zemun, Belgrade.
- Zoophthora phytonomi*** (Arthur) Humber, Ben-Ze'ev & RG Kenneth in Humber & Ben-Ze'ev [Entomophthoromycotina: Entomophthorales] Entomophthoraceae
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- 113 [ARSEF 82 (lost); ATCC 34292; FPMI 951] RG Kenneth (3085) ← A Uziel. Larva, *Hypera variabilis* [Coleoptera: Curculionidae] on alfalfa. Apr 1976. Israel: Sedé Eliyahu.
- 191 RG Kenneth (E.p. 2) or (3095) ← I Ben-Ze'ev. Larva, *Hypera variabilis* [Coleoptera: Curculionidae]. Apr 1976. Israel: Sedé Eliyahu.
- 192 RG Kenneth (3133) ← I Ben-Ze'ev. Larva, *Hypera variabilis* [Coleoptera: Curculionidae] on alfalfa. 2 Mar 1977. Israel: Sedé Eliyahu.
- 202 [RG Kenneth 3178] AA Muka ← JP Kramer. *Hypera punctata* [Coleoptera: Curculionidae]. Jul 1977. USA: Ithaca, New York.
- 2188 RJ Dysart. Larva, *Hypera punctata* [Coleoptera: Curculionidae]. 29 Apr 1986. USA: Farmington, Delaware.
- 3342 S Roberts. *Hypera postica* [Coleoptera: Curculionidae]. Spring 1991. USA: Eddyville, Illinois.
- 3343 S Roberts. *Hypera postica* [Coleoptera: Curculionidae]. Spring 1991. USA: LaSalle County, Illinois.
- 3344 S Roberts. *Hypera postica* [Coleoptera: Curculionidae]. Spring 1991. USA: Albion, Illinois.
- Zoophthora radicans*** (Brefeld) Batko [Entomophthoromycotina: Entomophthorales] Entomophthoraceae. Major synonyms: *Entomophthora sphaerosperma* Fresenius, *Entomophthora radicans* Brefeld, *Erynia radicans* (Brefeld) Humber, Ben-Ze'ev & Kenneth in Humber & Ben-Ze'ev.
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- 13 [FPMI 696] RS Soper ← CC Thompson. *Neodiprion tsugae* [Hymenoptera: Diprionidae]. Aug 1971. USA: Prince of Wales Island, Alaska.
- 21 RS Soper ← DE Leonard (BBIV-20). Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 1973. USA: Maine.
- 44 [FPMI 697; RG Kenneth 3045] JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.
- 45 JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: Oxbow-Masardis, Maine.
- 50 [FPMI 698] JD Vandenberg. Larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 16 Jun 1975. USA: 0.1 mi N of Oxbow Rd. on Rt. 11, Oxbow-Masardis, Maine.
- 52 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 19 Jun 1975. USA: 1.5 mi E of bridge at S. Bancroft, Bancroft Township, Maine.
- 68 [FPMI 688; IPLB 624] G Remaudière. *Tortrix viridana* [Lepidoptera: Tortricidae]. 22 May 1975. France: Forêt de Dourdan, Essonne.
- 72 [CSIRO EM532; FPMI 487] RG Kenneth (3046) ← ATCC (24493) ← DM MacLeod. *Lambdina fiscellaria fiscellaria* [Lepidoptera: Geometridae]. 7 Aug 1982. Canada: Ming's Bight, Newfoundland.
- 75 [FPMI 700] RG Kenneth (E.s. 28) or (3060). *Brachycaudus amygdalinus* [Homoptera: Aphididae] on *Polygonum equisetiforme* [Polygonaceae]. 23 Jan 1976. Israel: Rehovot, Central District.
- 88 [CSIRO EM569] JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1976. USA: nr. Selden Road, Haynesville Woods, Maine.
- 103 [CSIRO EM518, EM578, EM724; FPMI 701] RG Kenneth (E.s. 31) or (3100) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 11 Jul 1976. Israel: Sedé Eliyahu.
- 104 [CSIRO EM553, EM725] RG Kenneth (E.s. 32) or (3101) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 11 Jul 1976. Israel: Sedé Eliyahu.
- 105 [CSIRO EM726] RG Kenneth (E.s. 33) or (3102) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 106 [CSIRO EM727] RG Kenneth (E.s. 34) or (3103) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 107 [CSIRO EM554] RG Kenneth (E.s. 35) or (3104) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 108 [CSIRO EM728] RG Kenneth (E.s. 36) or (3105) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 109 [CSIRO EM729] RG Kenneth (E.s. 37) or (3106) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 110 [CSIRO EM555] RG Kenneth (E.s. 38) or (3107) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.

- 111 [CSIRO EM556, EM730] RG Kenneth (E.s. 40) or (3109) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 112 [CSIRO EM561] RG Kenneth (E.s. 41) or (3110) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 25 Jul 1976. Israel: Bet Dagan, Hamerkaz.
- 114 [CSIRO EM517] RG Kenneth (E.s. 29) or (3096) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. 11 Jul 1976. Israel: Sedé Eliyahu.
- 126 [FPMI 702; IPLB 27] JP Latgé and G Remaudière (625). *Psyllida etrioza* [Homoptera: Psyllidae] on *Prunus pennsylvanicus* [Rosaceae]. 25 Aug 1976. Canada: Chute aux Galets, Québec.
- 139 [CSIRO EM731] RG Kenneth (E.s. 30) or (3097) ← A Uziel. *Therioaphis maculata* [Homoptera: Aphididae]. Acc'd 20 Nov 1978. Israel: Sedé Eliyahu.
- 141 [FPMI 687] JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Map reference: T4R10, Maine.
- 142 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 20 Jun 1977. USA: Perham, Maine.
- 143 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Perham, Maine.
- 144 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Perham, Maine.
- 145 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 23 Jun 1977. USA: Carroll, Maine.
- 146 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 21 Jun 1977. USA: Map reference: T6R7, Shin Pond, Maine.
- 161 JD Vandenberg. Single spore reisolate of ARSEF 88. Jul 1977. Laboratory manipulation.
- 162 JD Vandenberg. Single spore reisolate of ARSEF 88. Jul 1977. Laboratory manipulation.
- 163 JD Vandenberg. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 1 Jul 1977. USA: forest-upper, Perham, Maine.
- 183 JD Vandenberg. Single spore reisolate of ARSEF 88. Sep 1977. Laboratory manipulation.
- 184 JD Vandenberg. Single spore reisolate of ARSEF 88. Sep 1977. Laboratory manipulation.
- 185 JD Vandenberg. Single spore reisolate of ARSEF 88. Sep 1977. Laboratory manipulation.
- 186 JD Vandenberg. Single spore reisolate of ARSEF 88. Sep 1977. Laboratory manipulation.
- 187 JD Vandenberg. Single spore reisolate of ARSEF 88. Sep 1977. Laboratory manipulation.
- 188 JD Vandenberg. Single spore reisolate of ARSEF 88. Sep 1977. Laboratory manipulation.
- 189 [ATCC 32797; FPMI 703] RG Kenneth (3044) or (2884) ← CBS (216.66) ← M Gustafsson. Phylum Arthropoda, Class Insecta. Rec'd 1977. Sweden.
- 221 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Presque Isle, Maine.
- 223 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Springfield, Maine.
- 224 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Springfield, Maine.
- 225 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Macwahoc, Maine.
- 226 S Ignatowicz. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 24 Jun 1978. USA: Macwahoc, Maine.
- 227 S Ignatowicz. Pupa, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 3 Jul 1978. USA: Mamarda, Maine.
- 228 S Ignatowicz. Pupa, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 3 Jul 1978. USA: Mamarda, Maine.
- 229 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 230 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 231 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 232 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 233 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 28 Jun 1978. USA: Princeton, Maine.
- 234 S Ignatowicz. *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 30 Jun 1978. USA: Oak Hill, Maine.
- 235 S Ignatowicz. 6th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 30 Jun 1978. USA: Oak Hill, Maine.
- 237 [FPMI 704] P Dodge. *Therioaphis maculata* [Homoptera: Aphididae]. Aug 1978. USA: Ithaca, New York.
- 238 [CSIRO EM560] P Dodge. *Therioaphis maculata* [Homoptera: Aphididae]. Aug 1978. USA: Ithaca, New York.
- 239 P Dodge. *Therioaphis maculata* [Homoptera: Aphididae]. Aug 1978. USA: Ithaca, New York.

- 359 [ARSEF 370, 823; CSIRO EM539; IPLB 844] RJ Milner ← ARSEF (103). *Therioaphis maculata* [Homoptera: Aphididae]. Acc'd 8 Jun 1979. Australia: Armidale, New South Wales. Reisolated from field release at Armidale; forms protoplasts.
- 370 [ARSEF 359, 823; CSIRO EM539; IPLB 844] RJ Milner ← ARSEF (103). *Therioaphis maculata* [Homoptera: Aphididae]. Acc'd 27 Jul 1979. Australia: Armidale, New South Wales. Reisolated from field release at Armidale.
- 379 [IPLB 1118] CSIRO (EM540) ← JP Latgé. *Therioaphis maculata* [Homoptera: Aphididae]. 9 Nov 1978. Mexico.
- 388 S Keller (214). [Diptera]. Rec'd 3 Oct 1979. Switzerland: Zürich.
- 389 S Keller (217). *Dicyphus pallidus* [Hemiptera: Miridae]. Rec'd 3 Oct 1979. Switzerland: Zürich.
- 404 [FPMI 705] S Keller (59). Adult, [Lepidoptera]. 20 Jul 1977. Switzerland.
- 407 [FPMI 706] FPMP (655) ← P Degroot. 4th instar larva, *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 26 Jun 1979. Canada: Thessalon, Ontario.
- 491 H Beerman and DE McCabe. Reisolate of ARSEF 141 after 3 passes through *Choristoneura fumiferana* [Lepidoptera: Tortricidae]. 18 Jun 1980. Laboratory manipulation.
- 685 DW Roberts (102181-12). *Nilaparvata lugens* [Homoptera: Delphacidae]. 21 Oct 1981. PR China: Wuhan, Hupei.
- 789 [CNPAF 82-6-25-01; CP 64; CSIRO EM732] RA Daoust (EK8-1) and M Yokoyama. Adult, *Empoasca kraemeri* [Homoptera: Cicadellidae] on beans. 25 Jun 1982. Brazil: CNPAF, Goiânia, Goiás.
- 790 [CNPAF 82-6-25-02; CP 65; CSIRO EM733] RA Daoust (EK8-2) and M Yokoyama. Adult, *Empoasca kraemeri* [Homoptera: Cicadellidae] on beans. 25 Jun 1982. Brazil: CNPAF, Goiânia, Goiás.
- 800 EL Cuebas-Incle. [Homoptera: Cercopidae]. Jul 1979. USA: Six Mile Creek, Ithaca, New York.
- 822 [CSIRO EM667; IPLB 421] CSIRO (EM667) ← G Remaudière. *Capitophorus* sp. [Homoptera: Aphididae]. 24 Oct 1973. France: Quineville, Manche.
- 823 [ARSEF 359, 370; CSIRO EM539; IPLB 844] G Lutton and RJ Milner ← ARSEF (103). *Therioaphis maculata* [Homoptera: Aphididae]. 9 Nov 1978. Australia: Armidale, New South Wales. Reisolated from field release at Armidale.
- 899 SP Wraight (Ef-1). Reisolate of ARSEF 789 passed through *Empoasca fabae* [Homoptera: Cicadellidae]. Feb 1983. Laboratory manipulation.
- 914 S Keller (445). *Drepanosiphum aceris* [Homoptera: Aphididae]. Nov 1982. Switzerland.
- 1018 JV Maddox and MR McGuire (A). *Empoasca fabae* [Homoptera: Cicadellidae] on potato. 12 Sep 1983. USA: Arlington Research Station, nr. Madison, Wisconsin.
- 1019 JV Maddox and MR McGuire (B). *Empoasca fabae* [Homoptera: Cicadellidae] on potato. 12 Sep 1983. USA: Arlington Research Station, nr. Madison, Wisconsin.
- 1020 JV Maddox and MR McGuire (D). *Empoasca fabae* [Homoptera: Cicadellidae] on potato. 12 Sep 1983. USA: Arlington Research Station, nr. Madison, Wisconsin.
- 1021 JV Maddox and MR McGuire (F). *Empoasca fabae* [Homoptera: Cicadellidae] on potato. 12 Sep 1983. USA: Arlington Research Station, nr. Madison, Wisconsin.
- 1048 J Aoki (Ent. 8) ← H Kawamoto. *Plutella xylostella* [Lepidoptera: Plutellidae]. Dec 1975. Japan: Fuchu, Tokyo Prefecture.
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- 2286 RI Carruthers (A-IV). *Empoasca* sp. [Homoptera: Cicadellidae]. 4 Sep 1986. Yugoslavia: Zemun, Belgrade.
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- 2601 BP Magalhães ← SP Wraight (T-8). Reisolate of ARSEF 1261. Acc'd 13 Sep 1988. Location not specified.
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- 2698 TJ Poprawski (88111). Reisolate of ARSEF 2709 after 3 passes through *Chorisops tibialis* [Diptera: Stratiomyidae]. Rec'd 14 Apr 1989. Laboratory manipulation.
- 2699 TJ Poprawski (88113). Reisolate of ARSEF 2706 after 2 passes through *Empoasca flavescens* [Homoptera: Cicadellidae]. Rec'd 14 Apr 1989. Laboratory manipulation.
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- 2702 [ARSEF ?3117] TJ Poprawski (8824B). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 21 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 2703 [ARSEF 3116] G Mercadier and TJ Poprawski (8820A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 23 Sep 1988. Yugoslavia: Kovin.
- 2704 TJ Poprawski (88100). Reisolate of ARSEF 2702 after 2 passes through *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 14 Apr 1989. Laboratory manipulation.

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- 2707 TJ Poprawski (88107). Reisolate of ARSEF 2696 after 2 passes through *Acyrtosiphon pisum* [Homoptera: Aphididae]. Rec'd 14 Apr 1989. Laboratory manipulation.
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- 2710 TJ Poprawski (88121). Reisolate of ARSEF 2703 after 2 passes through *Schizaphis graminum* [Homoptera: Aphididae]. Rec'd 14 Apr 1989. Laboratory manipulation.
- 2711 TJ Poprawski (88108). Reisolate of ARSEF 2696 after 2 passes through *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 14 Apr 1989. Laboratory manipulation.
- 2712 TJ Poprawski (88116). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 20 Sep 1988. Yugoslavia: Kovin.
- 2713 [ARSEF 3164] G Mercadier and TJ Poprawski (8823A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 21 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 2714 TJ Poprawski (88129). Reisolate of ARSEF 2703 passed through *Syrphus* sp. [Diptera: Syrphidae]. Rec'd 14 Apr 1989. Laboratory manipulation.
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- 2717 H Firstencel ← JV Maddox. *Empoasca fabae* [Homoptera: Cicadellidae] on soybean. 1987. USA: Union field, McHenry, Illinois.
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- 2720 H Firstencel ← JV Maddox. *Empoasca fabae* [Homoptera: Cicadellidae]. 1985. USA: Champaign, Illinois.
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- 2811 MG Feng (MD8901). *Metopolophium dirhodum* [Homoptera: Aphididae] on spring wheat. 7 Jul 1989. USA: Parma, Idaho.
- 2893 GW Riethmacher (E2). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 Apr 1989. Philippines: La Trinidad, Benguet.
- 2977 D Landis (1A). *Empoasca fabae* [Homoptera: Cicadellidae] on alfalfa. 23 Aug 1989. USA: Michigan State University Botany Farm, Ingham County, Michigan.
- 2978 D Landis (1B). *Empoasca fabae* [Homoptera: Cicadellidae] on alfalfa. 23 Apr 1989. USA: Michigan State University Botany Farm, Ingham County, Michigan.
- 2979 D Landis (1C). *Empoasca fabae* [Homoptera: Cicadellidae] on alfalfa. 23 Aug 1989. USA: Michigan State University Botany Farm, Ingham County, Michigan.
- 2980 D Landis (2A). *Empoasca fabae* [Homoptera: Cicadellidae] on alfalfa. 24 Aug 1989. USA: Hudson Farm, Allegan County, Michigan.
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- 3002 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 10, field # 1, Capão Bonito, São Paulo.
- 3003 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 4, field # 1, Capão Bonito, São Paulo.
- 3004 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 2, field # 2, Capão Bonito, São Paulo.
- 3005 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 5 Apr 1990. Brazil: treatment plot # 1, field # 1, Capão Bonito, São Paulo.
- 3006 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 10, field # 1, Capão Bonito, São Paulo.
- 3007 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 2, field # 1, Capão Bonito, São Paulo.
- 3008 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 2, field # 2, Capão Bonito, São Paulo.
- 3009 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 30 Apr 1990. Brazil: treatment plot # 1, field # 1, Capão Bonito, São Paulo.
- 3010 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. Apr 1990. Brazil: treatment plot # 3, field # 1, Capão Bonito, São Paulo.

- 3011 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 30 Apr 1990. Brazil: control plot # 1, field # 1, Capão Bonito, São Paulo.
- 3012 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 7 May 1990. Brazil: treatment plot # 3, field # 1, Capão Bonito, São Paulo.
- 3013 SP Wraight ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 10 May 1990. Brazil: control plot # 1, field # 1, Capão Bonito, São Paulo.
- 3021 H Firstencel (Yugo-1). Rec'd 21 Dec 1989. Location not specified. The Yugo mix, created by H. Firstencel, is a combination of the following 7 isolates: 2706, 2246, 2288, 2712, 2240, 2283, 2243.
- 3022 H Firstencel (Yugo-2). Rec'd 21 Dec 1989. Location not specified. The Yugo mix, created by H. Firstencel, is a combination of the following 7 isolates: 2706, 2246, 2288, 2712, 2240, 2283, 2243.
- 3023 H Firstencel (Brazil-1). Rec'd 21 Dec 1989. Location not specified. The Brazil mix, created by H. Firstencel, is a combination of the following 7 isolates: 1228, 1239, 1493, 1928, 1231, 1504, 1581.
- 3024 H Firstencel (Brazil-2). Rec'd 21 Dec 1989. Location not specified. The Brazil mix, created by H. Firstencel, is a combination of the following 7 isolates: 1228, 1239, 1493, 1928, 1231, 1504, 1581.
- 3026 DW Roberts ← LG Leite. *Empoasca kraemeri* [Homoptera: Cicadellidae]. 5 Apr 1990. Brazil.
- 3104 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 13 Sep 1990. USA: Hoffman field, strip # 1, Catherine, New York.
- 3105 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. 13 Sep 1990. USA: Hoffman field, strip # 1, Catherine, New York.
- 3114 [ARSEF 2709] G Mercadier and TJ Poprawski (8818A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 20 Sep 1988. Yugoslavia: Kovin.
- 3115 G Mercadier and TJ Poprawski (8819A). *Typhlocyba* sp. [Homoptera: Cicadellidae] on sugar beet. 20 Sep 1988. Yugoslavia: Kovin.
- 3116 [ARSEF 2703] G Mercadier and TJ Poprawski (8820A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 23 Sep 1988. Yugoslavia: Kovin.
- 3117 [ARSEF ?2702] TJ Poprawski (8824B). Reisolated of ARSEF 3150 passed through *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 27 Nov 1990. Laboratory manipulation.
- 3118 TJ Poprawski (8825B). Reisolated of ARSEF 3149 passed through *Musca autumnalis* [Diptera: Muscidae]. Rec'd 27 Nov 1990. Laboratory manipulation.
- 3119 [ARSEF 2701] G Mercadier and TJ Poprawski (8826). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 21 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3149 [ARSEF 2706] G Mercadier and TJ Poprawski (8825A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 22 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3150 G Mercadier and TJ Poprawski (8824A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 22 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3151 TJ Poprawski (8819B). *Empoasca vitis* [Homoptera: Cicadellidae]. Rec'd 27 Nov 1990. Laboratory manipulation. Reisolated of ARSEF 3225.
- 3159 G Mercadier and TJ Poprawski (8812B). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 23 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3160 G Mercadier and TJ Poprawski (8812C). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 23 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3161 [ARSEF ?2696] TJ Poprawski (8812D). Rec'd 11 Dec 1990. Laboratory manipulation.
- 3162 TJ Poprawski (8817A) ← IL Sivcev. *Empoasca vitis* [Homoptera: Cicadellidae]. 23 Sep 1988. Location not specified.
- 3163 [ARSEF ?2708] TJ Poprawski (8817B). *Diuraphis noxia* [Homoptera: Aphididae]. Rec'd 11 Dec 1990. Laboratory manipulation. Reisolated of ARSEF 3162.
- 3164 [ARSEF 2713] G Mercadier and TJ Poprawski (8823A). *Empoasca vitis* [Homoptera: Cicadellidae] on sugar beet. 21 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3165 G Mercadier and TJ Poprawski (8830A). *Empoasca vitis* [Homoptera: Cicadellidae] on cabbage. 21 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3170 G Mercadier and TJ Poprawski (8842A). *Typhlocyba* sp. [Homoptera: Cicadellidae] on *Abutilon* sp. 20 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3171 [ARSEF 2700] G Mercadier and TJ Poprawski (8843A). *Typhlocyba* sp. [Homoptera: Cicadellidae] on sugar beet. 21 Sep 1988. Yugoslavia: Zemun, Belgrade.
- 3172 TJ Poprawski (8843B). *Empoasca vitis* [Homoptera: Cicadellidae]. Rec'd 11 Dec 1990. Laboratory manipulation. Reisolated of ARSEF 3171.
- 3204 GW Riethmacher (E3). *Plutella xylostella* [Lepidoptera: Plutellidae]. 5 Apr 1989. Philippines: La Trinidad, Benguet.
- 3205 GW Riethmacher (E5). *Plutella xylostella* [Lepidoptera: Plutellidae]. 7 Apr 1989. Philippines: La Trinidad, Benguet.
- 3206 GW Riethmacher (E6). *Plutella xylostella* [Lepidoptera: Plutellidae]. 3 May 1989. Philippines: La Trinidad, Benguet.
- 3213 M Wheeler (Yugo Mix Plate#1). Rec'd 27 Dec 1990. Location not specified. This culture was taken from a bubbler mixture of ARSEFs 2240, 2243, 2246, 2283, 2288, 2706, and 2712.

- 3214 M Wheeler (Yugo Mix Plate#2). Rec'd 27 Dec 1990. Location not specified. This culture was taken from a bubbler mixture of ARSEFs 2240, 2243, 2246, 2283, 2288, 2706, and 2712.
- 3217 SG Wraight and SP Wraight (Ef1590). Reisolate of ARSEF 1590 passed through *Empoasca fabae* [Homoptera: Cicadellidae]. Rec'd 22 Jan 1991. Laboratory manipulation.
- 3283 [ARSEF 3284] S Roberts (Champ90LH2To(B)). *Empoasca fabae* [Homoptera: Cicadellidae] on alfalfa. 1990. USA: Champaign County, Illinois.
- 3284 [ARSEF 3283] S Roberts (Champ90LH2To(E)). *Empoasca fabae* [Homoptera: Cicadellidae] on alfalfa. 1990. USA: Champaign County, Illinois.
- 3355 M Wheeler. *Empoasca fabae* [Homoptera: Cicadellidae]. Rec'd 13 Jun 1991. Laboratory manipulation. Reisolate of 1019 after two passes through PLH.
- 3376 M Wheeler ← MH Griggs. *Empoasca fabae* [Homoptera: Cicadellidae]. 26 Jul 1991. USA: Game Farm Rd., Ithaca, New York.
- 3377 M Wheeler ← MH Griggs. *Empoasca fabae* [Homoptera: Cicadellidae]. 29 Jul 1991. USA: Game Farm Rd., Ithaca, New York.
- 3390 M Wheeler ← MH Griggs. *Empoasca fabae* [Homoptera: Cicadellidae]. 5 Aug 1991. USA: Game Farm Rd., Ithaca, New York.
- 3623 ATCC (32245) ← RG Kenneth (3029). *Empoasca* sp. [Homoptera: Cicadellidae] on citrus leaf. Rec'd 11 Mar 1992. Israel: Girat, Brenner.
- 3697 MH Griggs. *Empoasca fabae* [Homoptera: Cicadellidae]. Rec'd Spring 1992. Laboratory manipulation.
- 3737 I Ben-Ze'ev and A Uziel. *Therioaphis trifolii f. maculata* [Homoptera: Aphididae]. Aug 1985. Israel: Bet-Seham Valley.
- 4520 MH Griggs (PLH3284ows). *Empoasca fabae* [Homoptera: Cicadellidae]. 2 Jun 1994. USA: USPSNL, Ithaca, New York. Cadavers infected with ARSEF 3284 overwintered 1993-1994 and reisolated.
- 4781 [INIA 2330] J Eilenberg (KVL 608). *Epinotia aporema* [Lepidoptera: Tortricidae]. 7 May 1994. Uruguay.
- 4782 [INIA 2553] J Eilenberg (KVL 609). *Epinotia aporema* [Lepidoptera: Tortricidae]. 13 May 1994. Uruguay.
- 4783 [INIA 228] J Eilenberg (KVL 613). *Anacamptis humilis* [Lepidoptera: Gelechiidae]. Rec'd 13 Sep 1994. Uruguay.
- 4784 [INIA 2562] J Eilenberg (KVL 610). *Epinotia aporema* [Lepidoptera: Tortricidae]. 13 May 1994. Uruguay.
- 4785 [INIA 2377] J Eilenberg (KVL 611). *Epinotia aporema* [Lepidoptera: Tortricidae]. 7 May 1994. Uruguay.
- 5814 C López Lastra. Larva, *Epinotia aporema* [Lepidoptera: Tortricidae] on *Lupinus* sp. Rec'd 28 Aug 1998. Argentina: Los Hornos, La Plata, Buenos Aires.
- 6003 SR Sánchez Peña. Larva, *Trichoplusia ni* [Lepidoptera: Noctuidae] in a broccoli plot. Nov 1998. Mexico: Universidad Agraria Antonio Narro campus, Saltillo, Coahuila.
- 6303 R Alatorre Rosas (Jav.13). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6313 R Alatorre Rosas (Mina.2). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6314 R Alatorre Rosas (Mina.2-2). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6315 R Alatorre Rosas (Mina.16). *Plutella xylostella* [Lepidoptera: Plutellidae]. Rec'd 22 Oct 1999. Mexico: Guanajuato State.
- 6605 JL Hatting (Sample G). *Molopopterus theae* [Homoptera: Cicadellidae]. 4 Aug 1999. South Africa: Site grid reference S 32° 00' 30.4" E 18° 55' 15.6" , Clanwilliam, Cape Province.
- 6917 C López Lastra (1). Larva, *Tuta absoluta* [Lepidoptera: Gelechiidae] on *Lycopersicon esculentum* Miller, tomato in covered greenhouses. 12 Jun 2001. Argentina: Colonia Urquiza, La Plata, Buenos Aires.
- 7208 [CEP 052] C López Lastra. *Aphis fabae* [Homoptera: Aphididae] on *Solanum melongena* L., eggplant. 26 Mar 2003. Argentina: Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS: consult Curator.**
- 7455 [CEP 130] C López Lastra. [Homoptera: Aphididae] on *Brassica oleracea* L., cabbage crop. 30 Mar 2004. Argentina: Arana, La Plata, Buenos Aires. **RESTRICTED ACCESS: consult Curator.**
- 7788 [CEP 172] C López Lastra ← AC Scorsetti. [Homoptera: Aphididae] on *Cynara cardunculus* L., artichoke crop. 12 Apr 2005. Argentina: General Mansilla, Partido Magdalena, Buenos Aires. **RESTRICTED ACCESS: consult Curator.**
- 7789 [CEP 173] C López Lastra ← AC Scorsetti. [Homoptera: Aphididae] on *Cynara cardunculus* L., artichoke crop. 8 Sep 2004. Argentina: Colonia Urquiza, La Plata, Buenos Aires. **RESTRICTED ACCESS: consult Curator.**
- 8466 AV Toledo (ZR062). Adult, [Diptera]. 13 May 2007. Argentina: La Plata, Buenos Aires.

Unidentified Entomophthorales sp.

[Entomophthoromycotina: Entomophthorales]

- 7227 AE Hajek (03 NY 8-1-1). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.
- 7228 AE Hajek (03 NY 8-1-2). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.

Unidentified Entomophthorales **sp.**

Unidentified Entomophthorales sp.

Fungal Cultures

7229 AE Hajek (03 NY 8-1-3). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.

7230 AE Hajek (03 NY 8-1-4). [Diptera: Tipulidae]. 13 Aug 2003. USA: Backyard, 205 Salem Drive, Ithaca, New York.

Basidiobolus sp.

- [Anura: Bufonidae]
Bufo bufo 9894 9895 9896 9897 9898
9899 9906 9907 9908
- [Anura: Dendrobatidae]
Dendrobates leucomelas 9888
- [Anura: Discoglossidae]
Alytes 9903 9904 9905 9909 9910 9911
9912
- Discoglossus* 9900 9901 9902
- [Anura: Microhylidae]
Dyscophus guineti 9887
- [Anura: Ranidae]
Hylarana erythraea 9890
Hylarana glandulosa 9892
Hylarana labialis 9891 9893
- [Caudata: Salamandridae]
Triturus marmoratus 9889
- [Primates: Hominidae]
Homo sapiens 273

Basidiobolus haptosporus

- [Diptera: Brachycera]
Unknown species 1347
- [Primates: Hominidae]
Homo sapiens 261 272

Basidiobolus ranarum

- [Lepidoptera: Lasiocampidae]
Dendrolimus spectabilis 1139

Batkoa sp.

- [Coleoptera: Cantharidae]
Unknown species 5810
- [Homoptera: Aphididae]
Acyrtosiphon pisum 3131
- [Lepidoptera: Lasiocampidae]
Malacosoma disstria 7370
- [Lepidoptera: Noctuidae]
Panolis flammea 6179

Batkoa apiculata

- [Diptera: Sciaridae]
Unknown species 919 927 1660 1661
Bradysia paupera 3225 3226
- [Homoptera: Aphididae]
Acyrtosiphon kondoi 839
Acyrtosiphon pisum 2504 3130 3136
3140
- Brevicoryne brassicae* 1146
Macrosiphum euphorbiae 174
Myzus ascalonicus 67
Myzus persicae 129
Rhopalosiphum maidis 3088 3091
Rhopalosiphum padi 3080 5994
- [Homoptera: Cicadellidae]
Unknown species 5552
- [Hymenoptera]
Unknown species 395

Batkoa gigantea

- [Diptera: Tipulidae]
Tipula paludosa 214 215 403

Batkoa major

- [Homoptera: Aphididae]
Unknown species 1427
- [Homoptera: Cicadellidae]
Empoasca fabae 2936 3102 3103

Batkoa papillata(?)

- [Diptera: Simuliidae]
Unknown species 7068

Conidiobolus sp.

- [Coleoptera: Curculionidae]
Hypera variabilis 80 81
- [Diptera: Anthomyiidae]
Unknown species 2494
Delia radicum 2672
- [Diptera: Ptychopteridae]
Ptychoptera contaminata 2498
- [Diptera: Tipulidae]
Tipula paludosa 6424
- [Homoptera: Aphididae]
Unknown species 999 1426
Aphis fabae 3383
Brevicoryne brassicae 2130
Eriosoma lanigerum 6659
Myzus persicae 3384
Schizaphis graminum 1967
- [Homoptera: Cercopidae]
Unknown species 391
Deois 2147
Deois flavopicta 2148
- [Homoptera: Cicadellidae]
Nephotettix bipunctata cincticeps 605
606
- [Homoptera: Cixiidae]
Oliarus dimidiatus 7786
- [Homoptera: Delphacidae]
Nilaparvata lugens 211 517 522 564
595 596
Sogatella furcifera 604
- [Homoptera: Membracidae]
Gargara 5404 5405 5406
- [Hymenoptera]
Unknown species 2193
- [Hymenoptera: Formicidae]
Solenopsis invicta 2819
- [Isopoda: Oniscoidea]
Porcellio 1672
- [Lepidoptera: Plutellidae]
Plutella xylostella 2771 2772 2815 2816
3208
- [Lepidoptera: Tortricidae]
Choristoneura fumiferana 92 93 94
147 148
- [Orthoptera: Tettigoniidae]
Unknown species 1477
- [Primates: Hominidae]
Homo sapiens 2928
- Conidiobolus coronatus**
- [Agaricales]
Volvariella volvacea 1147
- [Araneida]
Unknown species 567 7010
- [Coleoptera: Curculionidae]
Ceutorhynchus napi 1572 1573 1574
1575
- [Collembola]
Unknown species 8023
- [Dacrymycetales]
Unknown species 3087
- [Diptera: Psychodidae]
Lutzomyia 3379

- Lutzomyia sordelli* 3414 3415
- [Diptera: Sciaridae]
Lycoriella ingenua 9940 9941 9942
- [Homoptera: Aphididae]
Acyrtosiphon pisum 1738
Metopolophium dirhodum 2812 2813
2814
- [Homoptera: Cicadellidae]
Unknown species 419 421 422
Empoasca fabae 3099 3109
Nephotettix bipunctata cincticeps 520
597
- [Homoptera: Delphacidae]
Delphacodes haywardii 7203
Nilaparvata lugens 349 405 406 418
511 512 514 523 524 525 528 563
565 655 997 1876
- [Hymenoptera: Formicidae]
Unknown species 7011
- [Isoptera: Termitidae]
Nasutitermes corniger 8455
- [Lepidoptera: Noctuidae]
Mocis latipes 1884
- [Lepidoptera: Plutellidae]
Plutella xylostella 2730
- [Lepidoptera: Tortricidae]
Epinotia aporema 4797
- [Opiliones: Palpatores]
Unknown species 7012 7013
- [Perissodactyla: Equidae]
Equus ferus caballus 2715
- [Primates: Hominidae]
Homo sapiens 206
- [Thysanoptera: Thripidae]
Unknown species 6512 9914
Frankliniella occidentalis 3222

Conidiobolus firmipilleus

- [Lepidoptera: Plutellidae]
Plutella xylostella 2731

Conidiobolus lamprauges

- [Perissodactyla: Equidae]
Equus ferus caballus 2338

Conidiobolus nr. coronatus

- [Homoptera: Delphacidae]
Nilaparvata lugens 598 599 600 1742
1743
Sogatella furcifera 602

Conidiobolus obscurus

- [Homoptera: ?Aphididae]
Unknown species 243
- [Homoptera: Aphididae]
Unknown species 434
Acyrtosiphon kondoi 354 824
Acyrtosiphon pisum 832 834 1741
3132 3133 3134 3135 3137 3138
3139 3141
Aphis 124
Aphis armata 133 355
Macrosiphum euphorbiae 182
Metopolophium dirhodum 97 3092
Rhopalosiphum maidis 3089 3090
Rhopalosiphum padi 1131 5992
Therioaphis maculata 74
Uroleucon 121 122

Conidiobolus osmodes

[Coleoptera: Curculionidae]
Hypera variabilis 79

Conidiobolus osmodes(?)

[Homoptera: Aphididae]
Rhopalosiphum padi 5993

Conidiobolus pseudapiculatus

[Diptera: Psilidae]
Psila rosae 2493 2496 2497 2502

Conidiobolus thromboides

[Diptera]
Unknown species 86 87
[Diptera: Culicidae]
Culex pipiens pipiens 70
[Diptera: Helomyzidae]
Unknown species 5
[Homoptera: Aphididae]
Unknown species 58 59 248 249 250
1006
Acyrtosiphon pisum 100 6662
Aphis fabae 42 242 244 245 246 247
630 631 632 633 634 635 1735
Aphis glycines 7209 7210 7211
Aphis gossypii 83 194
Cavariella theobaldi 101 102 363 1733
1734
Diuraphis noxia 4968
Diuraphis tritici 2914
Macrosiphum euphorbiae 40
Metopolophium dirhodum 2828 2829
2849 2850
Myzus persicae 2 39 41 57 63 99 649
Rhopalosiphum insertum 73
Schizaphis graminum 2955
Therioaphis maculata 15 29 115 208
Uroleucon 120
[Homoptera: Cicadellidae]
Empoasca fabae 3129
[Orthoptera: Acrididae]
Unknown species 22

Entomophaga sp.

[Homoptera: Cicadellidae]
Empoasca kraemeri 1230
Nephotettix bipunctata cincticeps 1126
[Homoptera: Delphacidae]
Nilaparvata lugens 1881
[Lepidoptera]
Unknown species 393

Entomophaga asiatica

[Orthoptera: Acrididae]
Unknown species 1393
Parapodisma 1659

Entomophaga aulicae

[Lepidoptera]
Unknown species 1140 1656
[Lepidoptera: Arctiidae]
Spilosoma niveum 2372 2373 2374
[Lepidoptera: Geometridae]
Enypia griseata 2000
Lambdina fiscellaria fiscellaria 1991
2900
Lambdina fiscellaria lugubrosa 1990

Rheumaptera hastata 2899
[Lepidoptera: Lasiocampidae]
Dendrolimus spectabilis 1655
Malacosoma disstria 3602
[Lepidoptera: Lymantriidae]
Euproctis chryorrhoea 7140 7141 7142
7143 7144 7145
Orgyia vetusta 4004 4005 4006 4007
4008
[Lepidoptera: Noctuidae]
Unknown species 3016
?Heliothis 251
Aedia leucomelas 198 998
Autographa gamma 2363 2365
Mamestra brassicae 1657 1751 2362
2367 2368 2369
Pseudaletia 1999
[Lepidoptera: Notodontidae]
Ellida caniplaga 2903
Heterocampa 2902
Heterocampa biundata 2905
Heterocampa guttivitta 2843 2904 3039
3212
[Lepidoptera: Pieridae]
Colias erate poliographus 2366
[Lepidoptera: Saturniidae]
Dryocampa rubicunda 2897
[Lepidoptera: Tortricidae]
Choristoneura fumiferana 51 164 165
166 167 168 172 1992 1993 1994
1995 1997 1998 2896 2898 2901

Entomophaga australiensis

[Homoptera: Cicadellidae]
Unknown species 743
Cicadella 328
Empoasca kraemeri 791
[Homoptera: Cicadidae]
Cicadetta puer 331 365
[Homoptera: Delphacidae]
Nilaparvata lugens 581

Entomophaga calopteni

[Orthoptera: Acrididae]
Melanoplus bivittatus 390 408 497 498
Melanoplus cuneatus 623 626 646
Melanoplus differentialis 2522
Melanoplus flavidus 383
Melanoplus packardii 625

Entomophaga conglomerata

[Diptera: Chironomidae]
Unknown species 2273

Entomophaga macleodii

[Orthoptera: Acrididae]
Camnula pellucida 496 618 619 620
621 624 628 629 765 767 768 769
773 774 777 778 779 4948 4949
4950 4951 4952 4953
Dissosteira carolina 375 376 382 499

Entomophaga maimaiga

[Lepidoptera: Lasiocampidae]
Malacosoma americanum 6170 6173
6174
Malacosoma disstria 4545
[Lepidoptera: Lymantriidae]
Lymantria dispar 1390 1391 1392 1400
1658 2370 2371 2775 2779 2780
3052 3053 3828 3829 3830 3831
3832 3833 3834 3835 3913 4504
4505 4506 4507 4508 4509 4510
4549 4550 4551 4552 4553 4554
4555 5377 5378 5379 5380 5381
5382 5383 5384 5385 5386 5387
5388 5389 5390 5391 5392 5393
5394 5395 5396 5397 5398 5399
5400 5401 5564 5568 5570 6004
6005 6168 6169 6171 6172 6212
6218 6224 6253 6254 6255 6256
6257 6258 6264 6265 6266 6267
6268 6269 6270 6271 6272 6523
6524 6625 6626 6627 6628 6629
6630 6652 6653 6654 6655 6656
6657 6663 6664 6665 6666 6667
6668 6724 6725 6726 6727 6728
6729 7101 7102 7103 7104 7105
7106 7107 7108 7109 7110 7111
7112 7113 7114 7115 7116 7120
7121 7122 7123 7124 7125 7126
7127 7131 7132 7133 7134 7135
7136 7137 7138 7139 7183 7184
7185 7186 7187 7188 7189 7190
7352 7353

Entomophaga praxibuli

[Homoptera: Cicadellidae]
Empoasca vitis 3058
[Orthoptera: Acrididae]
Praxibulus 840

Entomophthora chromaphidis

[Homoptera: Aphididae]
Acyrtosiphon kondoi 1860 1862 1863

Entomophthora culicis

[Diptera: Chironomidae]
Unknown species 5811
[Diptera: Nematocera]
Unknown species 387

Entomophthora muscae

[Diptera]
Unknown species 392 6701 7371
[Diptera: Anthomyiidae]
Unknown species 2087 2088 2678
Botanophila fugax 6712
Delia 2089 2263 2264 2265 2266 2317
Delia antiqua 3074
Delia platura 707
Delia radicum 2665 2668 2670 2674
2675 6274 6706 6707 6708 6709
6710 6711 6717 6811 6814 6815
6818 6821
[Diptera: Calliphoridae]
Pollenia rudis 651
[Diptera: Muscidae]
Unknown species 5954
Coenosia tigrina 6918

Host by Fungus

<i>Musca domestica</i> 454 556 557 803 2014 2172 2542 5952 5953 6121 6122 6123 6124 6125 6126 6127 6128 6129 6130 6131 6132 6133 6134 6135 6136 6140 6141 6164 6165 6713 6714 6715 6716 6812 6813 [Diptera: Syrphidae] Unknown species 826 2673	Eryniopsis caroliniana [Diptera: Tipulidae] <i>Tipula paludosa</i> 640 641 642	Pandora blunckii [Coleoptera: Elateridae] <i>Athalia rosae</i> 915 917 920 1715 1716 1717 1718 [Lepidoptera: Plutellidae] <i>Plutella</i> 3075 <i>Plutella maculipennis</i> 217 <i>Plutella xylostella</i> 1000 2824 3200 3202 6293 6294 6295 6296 6297 6298 6299 6300 6301 6302 6304 6305 6306 6307 6308 6309 6310 6311 6312 6316
Entomophthora planchoniana [Homoptera: Aphididae] <i>Ovatus crataegarius</i> 6251 6252	Eryniopsis ptychopterae [Diptera: Ptychopteridae] <i>Ptychoptera contaminata</i> 2535 2671	Pandora delphacis [Hemiptera: Miridae] Unknown species 3062 [Homoptera: Cicadellidae] Unknown species 1238 1936 <i>Empoasca fabae</i> 3072 3093 3094 3095 3096 3106 3107 <i>Nephotettix cincticeps</i> 458 459 460 461 478 <i>Recilia dorsalis</i> 659 660 [Homoptera: Delphacidae] <i>Nilaparvata lugens</i> 134 575 579 580 657 664 665 666 667 668 669 670 672 673 674 676 682 686 698 713 716 1124 1132 1133 1264 1268 1730 1731 2091 <i>Sogatella furcifera</i> 593 603 2092 2093 2095 2096 2409 6538 6539 <i>Sogatodes pusanus</i> 2094 [Homoptera: Membracidae] <i>Spissistilus festinus</i> 2028 3484 [Lepidoptera: Noctuidae] <i>Mamestra brassicae</i> 1265
Entomophthora scatophagae [Diptera: Scatophagidae] <i>Scatophaga stercoraria</i> 6704 6705	Furia gastropachae [Lepidoptera] Unknown species 2906 [Lepidoptera: Lasiocampidae] <i>Malacosoma disstria</i> 5541 5542 5543 5544 5545 5546 5547 5869 5870 5871 5872 8926	Pandora neopyralidarum [Lepidoptera] Unknown species 1145
Entomophthora schizophorae [Diptera: Calliphoridae] <i>Pollenia</i> 6703 6816 6817 [Diptera: Muscidae] <i>Musca domestica</i> 5348 6137 6138 6139 6142 6143 [Diptera: Psilidae] <i>Psila rosae</i> 2540 2541 2667	Furia ithacensis [Diptera: Empididae] Unknown species 1339 1340	Furia pieris [Lepidoptera: Pieridae] <i>Pieris rapae</i> 781
Entomophthora syrphi [Diptera: Syrphidae] <i>Melanostoma scalare</i> 6819 6820 <i>Platycheirus clypeatus</i> 6702 <i>Triglyphus primus</i> 5955	Furia virescens [Hemiptera: Miridae] <i>Notostira elongata</i> 394 [Lepidoptera] Unknown species 427 [Lepidoptera: Noctuidae] Unknown species 470 1129	Pandora dipterigena [Diptera] Unknown species 131 1720 1921 1923 [Diptera: ?Sciaridae] Unknown species 1887 [Diptera: Brachycera] Unknown species 1422 [Diptera: Nematocera] Unknown species 397 [Trichoptera] Unknown species 2406
Entomophthora thripidum [Thysanoptera: Thripidae] <i>Thrips tabaci</i> 5868 6517 6518 6519 6520 6521 6522 6525	Macrobiotophthora vermicola [Rhabditida: Rhabditidae] <i>Cruzema lambdiense</i> 650	Pandora heteropterae [Hemiptera: Miridae] <i>Lygus lineolaris</i> 9266
Erynia aquatica [Diptera: Culicidae] Unknown species 764 <i>Aedes</i> 750	Massospora cicadina [Homoptera: Cicadidae] <i>Magiccada septendecim</i> 374	Pandora kondoiensis [Homoptera: Aphididae] <i>Acyrtosiphon kondoi</i> 369 825 828 836 837
Erynia conica [Diptera: Chironomidae] Unknown species 2274 2405 [Diptera: Simuliidae] Unknown species 1752 1753 2275 <i>Simulium</i> 1439	Neozygites sp. [Acari: Tetranychidae] <i>Tetranychus urticae</i> 662	Pandora neoaphidis [Hemiptera: Miridae] <i>Lygus</i> 1570 [Homoptera: Aphididae] Unknown species 78 381 1695 1696 2016 2298 6902 <i>Acyrtosiphon pisum</i> 827 830 838 1598 1603 1605 1609 2017 2018 2583 2584 2585 2587 2588 2589 2591 2592 2593 2594 2754 2755 2756
Erynia curvispora [Diptera: Simuliidae] Unknown species 1754 3229 [Trichoptera] Unknown species 3244	Neozygites floridana(?) [Acari: Tetranychidae] <i>Mononychellus tanajoa</i> 6219 6220 6221 <i>Tetranychus urticae</i> 5201 5202 5376	
Erynia ovispora [Diptera: Psychodidae] Unknown species 399 400	Neozygites parvispora [Thysanoptera: Thripidae] <i>Thrips tabaci</i> 5620 5621	
Erynia rhizospora [Trichoptera] Unknown species 219 801 1440 1441 1442 1443 2276 [Trichoptera: Hydropsychidae] Unknown species 2407	Neozygites tetranychii [Acari: Tetranychidae] <i>Tetranychus althaeae</i> 2677	
Erynia sciarae [Diptera: Mycetophilidae] Unknown species 1870	Pandora sp. [Diptera] Unknown species 5812 [Lepidoptera: Plutellidae] <i>Plutella xylostella</i> 3201	

2757 2758 2760 2761 2762 2763	Zoophthora sp.	<i>Empoasca</i> 2241 2242 2243 2244 2245
2766 2767 2768 2769 2773 2781	[Dermaptera: Forficulidae]	2246 2282 2283 2284 2285 2286
2782 2783 2784 2837 2838 2839	<i>Forficula auricularia</i> 3486 3487 3488	2287 2288 2289 3623
2840 2842 2844 2845 2846 2847	[Homoptera: Aphididae]	<i>Empoasca fabae</i> 1018 1019 1020 1021
2848 2851 2852 2853 2854 2855	Unknown species 7454	1261 1262 1938 2400 2550 2716
2856 2865 2866 2867 2868 2870	Zoophthora anglica	2717 2718 2719 2720 2977 2978
2872 2873 3234 3237 3240 4934	[Coleoptera: Carabidae]	2979 2980 3104 3105 3283 3284
6631 7937	<i>Trechus quadristriatus</i> 1739	3355 3376 3377 3390 3697 4520
<i>Aphidula</i> 1610 1615	[Coleoptera: Elateridae]	<i>Empoasca kraemeri</i> 789 790 1227 1228
<i>Aphis</i> 128 3410	<i>Agriotes sputator</i> 396 2505	1229 1231 1232 1233 1234 1236
<i>Aphis fabae</i> 608 609 610 611 612 613	[Hemiptera: Miridae]	1237 1492 1493 1494 1496 1497
614 636 637 638 639 1606 1611	<i>Notostira elongata</i> 916 926	1498 1499 1500 1501 1502 1503
1981 1985 2019 2020 3238 3241	Zoophthora aphidis	1504 1541 1542 1543 1544 1581
5995	[Homoptera: Aphididae]	1582 1583 1584 1585 1586 1588
<i>Aphis glycines</i> 7212 7213 7214 7226	<i>Anoecia corni</i> 425	1589 1590 1593 1594 1595 1928
8607	Zoophthora lanceolata	1929 1930 1931 1932 1933 1934
<i>Brevicoryne brassicae</i> 1613 1616 1617	[Diptera: Brachycera]	1935 1937 2994 2995 2996 3002
1784 1785 1786 1824 1825 1826	Unknown species 468	3003 3004 3005 3006 3007 3008
1827 2108 2109 2110 2112 2114	[Diptera: Nematocera]	3009 3010 3011 3012 3013 3026
2115 2116 2117 2118 2119 2120	Unknown species 426 469	<i>Empoasca vitis</i> 2696 2700 2701 2702
2121 2122 2123 2124 2128 2280	Zoophthora occidentalis	2703 2706 2708 2709 2712 2713
2293 5371 5372 5373 5374	[Homoptera: Aphididae]	3114 3116 3119 3149 3150 3151
<i>Dactynotus formosanus</i> 1137	<i>Acyrtosiphon pisum</i> 2841 3027 3028	3159 3160 3162 3164 3165 3172
<i>Diuraphis noxia</i> 3081 3082 3126 3174	3029 3071 3073	<i>Hauptida distinguenda</i> 2256 2257 2258
3175	<i>Macrosiphum euphorbiae</i> 207	2259 2260 2261 2262
<i>Hyalopterus pruni</i> 1596	Zoophthora phalloides	<i>Molopopterus theae</i> 6605
<i>Hyperomyzus lactucae</i> 829 833 835	[Homoptera: Aphididae]	<i>Typhlocyba</i> 3115 3170 3171
<i>Macrosiphum</i> 1607 1612	<i>Brevicoryne brassicae</i> 2281	[Homoptera: Delphacidae]
<i>Macrosiphum akebiae</i> 1134	<i>Myzus rannaculinum</i> 352	<i>Delphacodes striatella</i> 1050
<i>Macrosiphum euphorbiae</i> 181	Zoophthora phytonomi	<i>Nilaparvata lugens</i> 685 1125 1136
<i>Macrosiphum rosae</i> 1986 1987	[Coleoptera: Curculionidae]	[Homoptera: Psyllidae]
<i>Metopolophium dirhodum</i> 2874 2875	<i>Hypera postica</i> 3342 3343 3344	<i>Psyllida etrioza</i> 126
2876 3365 3367 5707 5708	<i>Hypera punctata</i> 202 2188	<i>Trioza urticae</i> 1719
<i>Microlophium carnosum</i> 7938	<i>Hypera variabilis</i> 113 191 192	[Hymenoptera: Diprionidae]
<i>Myzus</i> 1601 1602	Zoophthora radicans	<i>Neodiprion tsugae</i> 13
<i>Myzus nicotinae</i> 3411 3412 3459	[Diptera]	[Lepidoptera]
<i>Myzus persicae</i> 1600 2085 2086 3248	Unknown species 388 1337 2499 2500	Unknown species 404
3249 3250 3251	2501 2503 2506 2523 2554 8466	[Lepidoptera: Gelechiidae]
<i>Schizaphis graminum</i> 3366	[Diptera: Anthomyiidae]	<i>Tuta absoluta</i> 6917
<i>Sitobion</i> 1597 1604	<i>Delia radicum</i> 2666	[Lepidoptera: Gelechiidae]
<i>Sitobion avenae</i> 5403 6166	[Diptera: Nematocera]	<i>Anacamptis humilis</i> 4783
<i>Uroleucon formosanus</i> 993	Unknown species 1336 1428	[Lepidoptera: Geometridae]
Pandora nouryi	[Hemiptera: Miridae]	<i>Lambdina fiscellaria fiscellaria</i> 72
[Homoptera: Aphididae]	<i>Dicyphus pallidus</i> 389	[Lepidoptera: Noctuidae]
Unknown species 199	[Homoptera: Aphididae]	<i>Sesamia inferens</i> 2411
<i>Acyrtosiphon kondoi</i> 362	Unknown species 7455 7788 7789	<i>Trichoplusia ni</i> 6003
<i>Lipaphis erysimi</i> 8930 8931	<i>Aphis fabae</i> 7208	[Lepidoptera: Pieridae]
<i>Therioaphis maculata</i> 366	<i>Brachycaudus amygdalinus</i> 75	<i>Pieris brassicae</i> 1341 1342 1343 1344
Schizangiella sp.	<i>Capitophorus</i> 822	1345 1346
[Squamata: Colubridae]	<i>Diuraphis noxia</i> 3163	[Lepidoptera: Plutellidae]
<i>Elaphe</i> 2237 2239	<i>Drepanosiphum aceris</i> 914 1130	<i>Plutella xylostella</i> 1048 1100 2732 2893
Schizangiella serpentis	<i>Metopolophium dirhodum</i> 2811	3204 3205 3206 6303 6313 6314
[Squamata: Colubridae]	<i>Therioaphis maculata</i> 103 104 105 106	6315
<i>Elaphe obsoleta</i> 8000 8047	107 108 109 110 111 112 114 139	[Lepidoptera: Pyralidae]
[Squamata: Viperidae]	237 238 239 359 370 379 823	<i>Cnaphalocrocis medinalis</i> 1699 2410
<i>Crotalus horridus</i> 203	<i>Therioaphis trifolii f. maculata</i> 3737	[Lepidoptera: Tortricidae]
Strongwellsea castrans	[Homoptera: Cercopidae]	<i>Choristoneura fumiferana</i> 21 44 45 50
[Diptera: Anthomyiidae]	Unknown species 800	52 88 141 142 143 144 145 146
<i>Delia radicum</i> 3282 3485	[Homoptera: Cicadellidae]	163 221 223 224 225 226 227 228
	Unknown species 1239 1263 1495 1587	229 230 231 232 233 234 235 407
	1591 2196 2549 2551 2552	<i>Epinotia aporema</i> 4781 4782 4784 4785
		5814
		<i>Merophyas divulsana</i> 1082
		<i>Ptycholoma aeriferana</i> 1674 1675
		<i>Tortrix viridana</i> 68

Unidentified Entomophthorales sp.
[Diptera: Tipulidae]
Unknown species 7227 7228 7229 7230

Animalia

Arthropoda • Arachnida

Acari: Tetranychidae

Mononychellus tanajoa
Brazil, Bahia
Neozygites floridana(?) 6219 6220
6221
Tetranychus althaeae
Czech Republic
Neozygites tetranychii 2677
Tetranychus urticae
USA, New York
Neozygites floridana(?) 5201 5202
5376
USA, North Carolina
Neozygites sp. 662

Araneida

Canada, Alberta
Conidiobolus coronatus 7010
Indonesia, Sumatera Utara
Conidiobolus coronatus 567
Canada, Alberta
Conidiobolus coronatus 7012 7013

Arthropoda • Crustacea

Isopoda: Oniscoidea

Porcellio sp.
USA, California
Conidiobolus sp. 1672

Arthropoda • Entognatha

Collembola

USA, North Carolina
Conidiobolus coronatus 8023

Arthropoda • Insecta

Coleoptera: Cantharidae

Denmark
Batkoa sp. 5810

Coleoptera: Carabidae

Trechus quadristriatus
United Kingdom
Zoophthora anglica 1739

Coleoptera: Curculionidae

Ceutorhynchus napi
Switzerland
Conidiobolus coronatus 1572 1573
1574 1575
Hypera postica
USA, Illinois
Zoophthora phytonomi 3342 3343
3344
Hypera punctata
USA, Delaware
Zoophthora phytonomi 2188

USA, New York
Zoophthora phytonomi 202

Hypera variabilis
Israel
Conidiobolus osmodes 79
Conidiobolus sp. 80 81
Zoophthora phytonomi 113 191 192

Coleoptera: Elateridae

Agriotes sputator
Denmark
Zoophthora anglica 2505
Switzerland
Zoophthora anglica 396
Athalia rosae
Switzerland
Pandora blunckii 915 917 920 1715
1716 1717 1718

Dermoptera: Forficulidae

Forficula auricularia
Denmark
Zoophthora sp. 3486 3487 3488

Diptera

Argentina
Zoophthora radicans 8466
Brazil, Goiás
Furia americana 742 2192 2194
Brazil, Paraná
Furia americana 1240 1242
Denmark
Entomophthora muscae 6701
Pandora sp. 5812
Zoophthora radicans 2499 2500
2501 2503 2506 2523 2554
Poland
Conidiobolus thromboides 86 87
Zoophthora radicans 1337
Switzerland
Entomophthora muscae 392
Pandora dipterigena 1720
Zoophthora radicans 388
USA, Maine
Pandora dipterigena 131
USA, New York
Entomophthora muscae 7371
Pandora dipterigena 1921 1923

Diptera: ?Sciaridae

USA, New York
Pandora dipterigena 1887

Diptera: Anthomyiidae

Denmark
Conidiobolus sp. 2494
Entomophthora muscae 2678
France
Entomophthora muscae 2087 2088
Botanophila fugax
Denmark
Entomophthora muscae 6712
Delia sp.
France
Entomophthora muscae 2089 2263
2264 2265 2266 2317

- Delia antiqua*
USA, New York
Entomophthora muscae 3074
- Delia platura*
United Kingdom
Entomophthora muscae 707
- Delia radicum*
Denmark
Conidiobolus sp. 2672
Entomophthora muscae 2665 2668
2670 2674 2675 6706 6707 6708
6709 6710 6711 6717 6811 6814
6815 6818 6821
Strongwellsea castrans 3282 3485
Zoophthora radicans 2666
- Norway
Entomophthora muscae 6274
- Diptera: Brachycera**
France
Zoophthora lanceolata 468
- Poland
Basidiobolus haptosporus 1347
Pandora dipterigena 1422
- Diptera: Calliphoridae**
Pollenia sp.
Denmark
Entomophthora schizophorae 6703
6816 6817
- Pollenia rudis*
USA, New York
Entomophthora muscae 651
- Diptera: Chironomidae**
Denmark
Entomophthora culicis 5811
- United Kingdom
Erynia conica 2405
- USA, New York
Entomophaga conglomerata 2273
Erynia conica 2274
- Diptera: Culicidae**
USA, New York
Erynia aquatica 764
- Aedes* sp.
USA, New York
Erynia aquatica 750
- Culex pipiens pipiens*
Czech Republic
Conidiobolus thromboides 70
- Diptera: Empididae**
Poland
Furia ithacensis 1339 1340
- Diptera: Helioomyzidae**
USA, Maine
Conidiobolus thromboides 5
- Diptera: Muscidae**
Denmark
Entomophthora muscae 5954
- Coenosia tigrina*
Denmark
Entomophthora muscae 6918
- Musca domestica*
Denmark
Entomophthora muscae 2542 5952
5953 6121 6122 6123 6124 6125
6126 6127 6128 6129 6130 6131
6132 6133 6134 6135 6136 6140
6141 6164 6165 6713 6714 6715
6716 6812 6813
Entomophthora schizophorae 6137
6138 6139 6142 6143
- USA, California
Entomophthora muscae 2172
- USA, Nebraska
Entomophthora schizophorae 5348
- USA, New York
Entomophthora muscae 454 556 557
803 2014
- Diptera: Mycetophilidae**
Location not specified
Erynia sciarae 1870
- Diptera: Nematocera**
Poland
Zoophthora radicans 1336 1428
- Switzerland
Entomophthora culicis 387
Pandora dipterigena 397
Zoophthora lanceolata 426 469
- Diptera: Psilidae**
Psila rosae
Denmark
Conidiobolus pseudapiculatus 2493
2496 2497 2502
Entomophthora schizophorae 2540
2541 2667
- Diptera: Psychodidae**
Switzerland
Erynia ovispora 399 400
- Lutzomyia* sp.
Guatemala
Conidiobolus coronatus 3379
- Lutzomyia sordelli*
Costa Rica
Conidiobolus coronatus 3414 3415
- Diptera: Ptychopteridae**
Ptychoptera contaminata
Denmark
Conidiobolus sp. 2498
Eryniopsis ptychopterae 2535 2671
- Diptera: Scatophagidae**
Scatophaga stercoraria
Denmark
Entomophthora scatophagae 6704
6705
- Diptera: Sciaridae**
Switzerland
Batkoa apiculata 919 927 1660 1661
- Bradysia paupera*
Denmark
Batkoa apiculata 3225 3226
- Lycoriella ingenua*
Mexico
Conidiobolus coronatus 9940 9941
9942
- Diptera: Simuliidae**
Canada, Newfoundland
Batkoa papillata(?) 7068
- Canada, Québec
Erynia curvispora 3229
- Switzerland
Erynia conica 1752 1753
Erynia curvispora 1754
- USA, New York
Erynia conica 2275
- Simulium* sp.
United Kingdom
Erynia conica 1439
- Diptera: Syrphidae**
Denmark
Entomophthora muscae 2673
- USA, New York
Entomophthora muscae 826
- Melanostoma scalare*
Denmark
Entomophthora syrphi 6819 6820
- Platycheirus clypeatus*
Denmark
Entomophthora syrphi 6702
- Triglyphus primus*
Denmark
Entomophthora syrphi 5955
- Diptera: Tipulidae**
USA, New York
Unidentified Entomophthorales sp.
7227 7228 7229 7230
- Tipula paludosa*
Switzerland
Batkoa gigantea 214 215 403
Eryniopsis caroliniana 640 641 642
- United Kingdom
Conidiobolus sp. 6424
- Hemiptera: Miridae**
USA, New York
Pandora delphacis 3062
- Dicyphus pallidus*
Switzerland
Zoophthora radicans 389
- Lygus* sp.
USA, New York
Pandora neoaphidis 1570
- Lygus lineolaris*
USA, Arkansas
Pandora heteropterae 9266
- Notostira elongata*
Switzerland
Furia virescens 394
Zoophthora anglica 916 926
- Homoptera: ?Aphididae**
Poland
Conidiobolus obscurus 243

Homoptera: Aphididae	2594 2754 2755 2756 2757 2758	France
Argentina	2760 2761 2762 2763 2766 2767	<i>Pandora neoaphidis</i> 1613 1616 1617
<i>Zoophthora radicans</i> 7455 7788	2768 2769 2773 2781 2782 2783	Japan
7789	2784 2837 2838 2839 2840 2842	<i>Batkoa apiculata</i> 1146
<i>Zoophthora</i> sp. 7454	2844 2845 2846 2847 2848 2851	Yugoslavia
Australia	2852 2853 2854 2855 2856 2865	<i>Pandora neoaphidis</i> 1784 1785 1786
<i>Pandora neoaphidis</i> 381	2866 2867 2868 2870 2872 2873	1824 1825 1826 1827 2124 2128
Commonwealth of Independent States	<i>Zoophthora occidentalis</i> 2841 3027	Yugoslavia, Belgrade
<i>Conidiobolus thromboides</i> 58 59 248	3028 3029 3071 3073	<i>Conidiobolus</i> sp. 2130
249 250	USA, Washington	<i>Pandora neoaphidis</i> 2108 2109 2110
France	<i>Pandora neoaphidis</i> 3234 3237	2112 2114 2115 2116 2117 2118
<i>Conidiobolus obscurus</i> 434	Yugoslavia, Vovvodina	2119 2120 2121 2122 2280 2293
Israel	<i>Pandora neoaphidis</i> 2017 2018	<i>Zoophthora phalloides</i> 2281
<i>Pandora neoaphidis</i> 78	<i>Anoecia corni</i>	Yugoslavia, Bosnia and Hercegovina
Japan	Switzerland	<i>Pandora neoaphidis</i> 2123
<i>Conidiobolus</i> sp. 999	<i>Zoophthora aphidis</i> 425	<i>Capitophorus</i> sp.
<i>Conidiobolus thromboides</i> 1006	<i>Aphidula</i> sp.	France
USA, California	France	<i>Zoophthora radicans</i> 822
<i>Pandora neoaphidis</i> 6902	<i>Pandora neoaphidis</i> 1610 1615	<i>Cavariella theobaldi</i>
USA, Maine	<i>Aphis</i> sp.	United Kingdom
<i>Pandora nouryi</i> 199	Canada, Québec	<i>Conidiobolus thromboides</i> 101 102
Yugoslavia	<i>Conidiobolus obscurus</i> 124	363 1733 1734
<i>Conidiobolus</i> sp. 1426	<i>Pandora neoaphidis</i> 128	<i>Dactynotus formosanus</i>
<i>Pandora neoaphidis</i> 1695	USA, Washington	Japan
Yugoslavia, Belgrade	<i>Pandora neoaphidis</i> 3410	<i>Pandora neoaphidis</i> 1137
<i>Batkoa major</i> 1427	<i>Aphis armata</i>	<i>Diuraphis noxia</i>
<i>Pandora neoaphidis</i> 1696 2016 2298	France	France
<i>Acyrtosiphon kondoi</i>	<i>Conidiobolus obscurus</i> 133 355	<i>Pandora neoaphidis</i> 3126 3174 3175
Australia	<i>Aphis fabae</i>	Laboratory manipulation
<i>Batkoa apiculata</i> 839	Argentina	<i>Zoophthora radicans</i> 3163
<i>Conidiobolus obscurus</i> 354 824	<i>Zoophthora radicans</i> 7208	South Africa
<i>Entomophthora chromaphidis</i> 1860	Denmark	<i>Conidiobolus thromboides</i> 4968
1862 1863	<i>Pandora neoaphidis</i> 5995	USA, Colorado
<i>Pandora kondoiensis</i> 369 825 828	France	<i>Pandora neoaphidis</i> 3081 3082
836 837	<i>Pandora neoaphidis</i> 1606 1611 1981	<i>Diuraphis tritici</i>
<i>Pandora nouryi</i> 362	1985	USA, Montana
<i>Acyrtosiphon pisum</i>	Poland	<i>Conidiobolus thromboides</i> 2914
Australia	<i>Conidiobolus thromboides</i> 242 244	<i>Drepanosiphum aceris</i>
<i>Conidiobolus obscurus</i> 834	245 246 247 630 631 632 633 634	Switzerland
<i>Pandora neoaphidis</i> 827 830 838	635	<i>Zoophthora radicans</i> 914 1130
Commonwealth of Independent States	<i>Pandora neoaphidis</i> 608 609 610	<i>Eriosoma lanigerum</i>
<i>Conidiobolus thromboides</i> 100	611 612 613 614 636 637 638 639	South Africa
Denmark	United Kingdom	<i>Conidiobolus</i> sp. 6659
<i>Batkoa apiculata</i> 2504	<i>Conidiobolus thromboides</i> 42 1735	<i>Hyalopterus pruni</i>
France	USA, Washington	France
<i>Pandora neoaphidis</i> 1598 1605 1609	<i>Conidiobolus</i> sp. 3383	<i>Pandora neoaphidis</i> 1596
Laboratory manipulation	<i>Pandora neoaphidis</i> 3238 3241	<i>Hyperomyzus lactucae</i>
<i>Conidiobolus obscurus</i> 832 1741	Yugoslavia, Vovvodina	Australia
<i>Pandora neoaphidis</i> 4934	<i>Pandora neoaphidis</i> 2019 2020	<i>Pandora neoaphidis</i> 829 835
Russian Federation	<i>Aphis glycines</i>	Chile
<i>Conidiobolus thromboides</i> 6662	USA, New York	<i>Pandora neoaphidis</i> 833
Spain	<i>Conidiobolus thromboides</i> 7209	<i>Lipaphis erysimi</i>
<i>Pandora neoaphidis</i> 1603	7210 7211	PR China
Switzerland	<i>Pandora neoaphidis</i> 7212 7213 7214	<i>Pandora nouryi</i> 8930 8931
<i>Pandora neoaphidis</i> 7937	7226 8607	<i>Macrosiphum</i> sp.
United Kingdom	<i>Aphis gossypii</i>	France
<i>Conidiobolus coronatus</i> 1738	Israel	<i>Pandora neoaphidis</i> 1607 1612
USA, Idaho	<i>Conidiobolus thromboides</i> 83 194	<i>Macrosiphum akebiae</i>
<i>Pandora neoaphidis</i> 3240 6631	<i>Brachycaudus amygdalinus</i>	Japan
USA, New York	Israel	<i>Pandora neoaphidis</i> 1134
<i>Batkoa apiculata</i> 3130 3136 3140	<i>Zoophthora radicans</i> 75	<i>Macrosiphum euphorbiae</i>
<i>Batkoa</i> sp. 3131	<i>Brevicoryne brassicae</i>	USA, Maine
<i>Conidiobolus obscurus</i> 3132 3133	Denmark	<i>Batkoa apiculata</i> 174
3134 3135 3137 3138 3139 3141	<i>Pandora neoaphidis</i> 5371 5372 5373	<i>Conidiobolus obscurus</i> 182
<i>Pandora neoaphidis</i> 2583 2584 2585	5374	<i>Conidiobolus thromboides</i> 40
2587 2588 2589 2591 2592 2593		<i>Pandora neoaphidis</i> 181

Zoophthora occidentalis 207
Macrosiphum rosae
 France
Pandora neoaphidis 1986 1987
Metopolophium dirhodum
 France
Conidiobolus obscurus 97
 South Africa
Pandora neoaphidis 5707 5708
 USA, Idaho
Conidiobolus coronatus 2812 2813
 2814
Conidiobolus thromboides 2828
 2829 2849 2850
Pandora neoaphidis 2874 2875 2876
 3365 3367
Zoophthora radicans 2811
 USA, Montana
Conidiobolus obscurus 3092
Microlophium carnosum
 Switzerland
Pandora neoaphidis 7938
Myzus sp.
 Spain
Pandora neoaphidis 1601 1602
Myzus ascalonicus
 France
Batkoa apiculata 67
Myzus nicotinae
 USA, Kentucky
Pandora neoaphidis 3411 3412 3459
Myzus persicae
 Commonwealth of Independent States
Conidiobolus thromboides 63 99
 Portugal
Pandora neoaphidis 1600
 Spain
Pandora neoaphidis 2085 2086
 USA, Arkansas
Pandora neoaphidis 3248 3249 3250
 3251
 USA, Florida
Conidiobolus thromboides 39
 USA, Maine
Batkoa apiculata 129
Conidiobolus thromboides 2 41 57
 USA, Washington
Conidiobolus sp. 3384
 USA, Wisconsin
Conidiobolus thromboides 649
Myzus rannaculinum
 France
Zoophthora phalloides 352
Ovatus crataegarius
 Denmark
Entomophthora planchoniana 6251
 6252
Rhopalosiphum insertum
 France
Conidiobolus thromboides 73
Rhopalosiphum maidis
 USA, Montana
Batkoa apiculata 3088 3091
Conidiobolus obscurus 3089 3090

Rhopalosiphum padi
 Denmark
Batkoa apiculata 5994
Conidiobolus obscurus 5992
Conidiobolus osmodes(?) 5993
 Japan
Conidiobolus obscurus 1131
 USA, Colorado
Batkoa apiculata 3080
Schizaphis graminum
 Canada, Alberta
Conidiobolus thromboides 2955
 USA, Idaho
Pandora neoaphidis 3366
 USA, Michigan
Conidiobolus sp. 1967
Sitobion sp.
Pandora neoaphidis 1597
 France
Pandora neoaphidis 1604
Sitobion avenae
 Denmark
Pandora neoaphidis 5403 6166
Therioaphis maculata
 Australia
Zoophthora radicans 359 370 823
 Israel
Zoophthora radicans 103 104 105
 106 107 108 109 110 111 112 114
 139
 Mexico
Zoophthora radicans 379
 USA
Pandora nouryi 366
 USA, California
Conidiobolus obscurus 74
Conidiobolus thromboides 15 29 115
 208
 USA, New York
Zoophthora radicans 237 238 239
Therioaphis trifolii f. maculata
 Israel
Zoophthora radicans 3737
Uroleucon sp.
 Canada, Québec
Conidiobolus obscurus 121 122
Conidiobolus thromboides 120
Uroleucon formosanus
 Japan
Pandora neoaphidis 993

Homoptera: Cercopidae

Switzerland
Conidiobolus sp. 391
 USA, New York
Zoophthora radicans 800
Deois sp.
 Brazil, Mato Grosso
Conidiobolus sp. 2147
Deois flavopicta
 Brazil, Mato Grosso
Conidiobolus sp. 2148

Homoptera: Cicadellidae

Batkoa apiculata 5552
 Brazil, Goiás
Entomophaga australiensis 743
Pandora delphacis 1238 1936
Zoophthora radicans 1495 1587
 1591 2196
 Brazil, Paraná
Zoophthora radicans 1239
 Japan
Zoophthora radicans 1263
 Philippines
Conidiobolus coronatus 419 421 422
 USA, Illinois
Zoophthora radicans 2549 2551
 2552
Cicadella sp.
 Australia
Entomophaga australiensis 328
Empoasca sp.
 Israel
Zoophthora radicans 3623
 Yugoslavia
Zoophthora radicans 2282 2283
 2284 2285 2288 2289
 Yugoslavia, Belgrade
Zoophthora radicans 2241 2242
 2243 2244 2245 2246 2286 2287
Empoasca fabae
 Laboratory manipulation
Zoophthora radicans 3697
Empoasca fabae
 Laboratory manipulation
Zoophthora radicans 3355
 Location not specified
Zoophthora radicans 2400
 USA, Illinois
Zoophthora radicans 1938 2550
 2716 2717 2718 2719 2720 3283
 3284
 USA, Michigan
Zoophthora radicans 2977 2978
 2979 2980
 USA, New York
Batkoa major 2936 3102 3103
Conidiobolus coronatus 3099 3109
Conidiobolus thromboides 3129
Pandora delphacis 3072 3093 3094
 3095 3096 3106 3107
Zoophthora radicans 3104 3105
 3376 3377 3390 4520
 USA, Wisconsin
Zoophthora radicans 1018 1019
 1020 1021 1261 1262
Empoasca kraemeri
 Brazil
Zoophthora radicans 3026
 Brazil, Goiás
Entomophaga sp. 1230
Zoophthora radicans 789 790 1492
 1493 1494 1496 1497 1498 1499
 1500 1501 1502 1503 1504 1541
 1542 1543 1544 1581 1582 1583
 1584 1585 1586 1588 1589 1590
 1593 1594 1595 1928 1929 1930
 1931 1932 1933 1934 1935 1937

Brazil, Rio Grande do Norte <i>Entomophaga australiensis</i> 791	Homoptera: Delphacidae <i>Delphacodes haywardii</i>	Homoptera: Membracidae <i>Gargara</i> sp.
Brazil, Rio Grande do Sul <i>Zoophthora radicans</i> 1227	Argentina <i>Conidiobolus coronatus</i> 7203	Canada, Québec <i>Conidiobolus</i> sp. 5405 5406
Brazil, Santa Catarina <i>Zoophthora radicans</i> 1228 1229 1231 1232 1233 1234 1236 1237	<i>Delphacodes striatella</i>	USA, Vermont <i>Conidiobolus</i> sp. 5404
Brazil, São Paulo <i>Zoophthora radicans</i> 2994 2995 2996 3002 3003 3004 3005 3006 3007 3008 3009 3010 3011 3012 3013	Japan <i>Zoophthora radicans</i> 1050	<i>Spissistilus festinus</i>
<i>Empoasca vitis</i>	<i>Nilaparvata lugens</i>	USA, Alabama <i>Pandora delphacis</i> 2028
Laboratory manipulation <i>Entomophaga praxibuli</i> 3058 <i>Zoophthora radicans</i> 3151 3172	Australia <i>Conidiobolus coronatus</i> 349	USA, Arkansas <i>Pandora delphacis</i> 3484
Location not specified <i>Zoophthora radicans</i> 3162	India <i>Conidiobolus</i> nr. <i>coronatus</i> 1742 1743	Homoptera: Psyllidae <i>Psyllida etrioza</i>
Yugoslavia <i>Zoophthora radicans</i> 2703 2709 2712 3114 3116	Indonesia, Jawa Barat, Java <i>Conidiobolus coronatus</i> 1876 <i>Conidiobolus</i> nr. <i>coronatus</i> 598 <i>Pandora delphacis</i> 2091	Canada, Québec <i>Zoophthora radicans</i> 126
Yugoslavia, Belgrade <i>Zoophthora radicans</i> 2696 2700 2701 2702 2706 2708 2713 3119 3149 3150 3159 3160 3164 3165	Indonesia, Lombok Island <i>Pandora delphacis</i> 575 579	<i>Trioza urticae</i>
<i>Hauptida distinguenda</i>	Indonesia, Sulawesi Selatan, Celebes <i>Conidiobolus coronatus</i> 563 565 <i>Conidiobolus</i> sp. 564	Switzerland <i>Zoophthora radicans</i> 1719
France <i>Zoophthora radicans</i> 2256 2257 2258 2259 2260 2261 2262	Indonesia, Sumatera Utara, Sumatra <i>Entomophaga australiensis</i> 581 <i>Pandora delphacis</i> 580	Hymenoptera Brazil, Goiás <i>Conidiobolus</i> sp. 2193
<i>Molopopterus theae</i>	Indonesia, Yogyakarta, Java <i>Conidiobolus</i> nr. <i>coronatus</i> 599 600 <i>Conidiobolus</i> sp. 595 596	Switzerland <i>Batkoa apiculata</i> 395
South Africa <i>Zoophthora radicans</i> 6605	Japan <i>Conidiobolus coronatus</i> 997 <i>Pandora delphacis</i> 134 1124 1132 1133 1264 1268	Hymenoptera: Diprionidae <i>Neodiprion tsugae</i>
<i>Nephotettix bipunctata cincticeps</i>	Malaysia <i>Conidiobolus coronatus</i> 512 514 523 524	USA, Alaska <i>Zoophthora radicans</i> 13
Indonesia, Sulawesi Selatan, Celebes <i>Conidiobolus coronatus</i> 597 <i>Conidiobolus</i> sp. 605 606	Philippines <i>Conidiobolus coronatus</i> 405 406 418 511	Hymenoptera: Formicidae Canada, Alberta <i>Conidiobolus coronatus</i> 7011
Malaysia <i>Conidiobolus coronatus</i> 520	PR China <i>Conidiobolus coronatus</i> 655 <i>Pandora delphacis</i> 657 664 665 666 667 668 669 670 672 673 674 676 682 686 698 713 716	<i>Solenopsis invicta</i>
Philippines <i>Entomophaga</i> sp. 1126	<i>Zoophthora radicans</i> 1125 1136	USA, Texas <i>Conidiobolus</i> sp. 2819
<i>Nephotettix cincticeps</i>	Solomon Islands <i>Entomophaga</i> sp. 1881	Isoptera: Termitidae <i>Nasutitermes corniger</i>
Philippines <i>Pandora delphacis</i> 458 459 460 461 478	Thailand <i>Conidiobolus coronatus</i> 525 528	<i>Conidiobolus coronatus</i> 8455
<i>Recilia dorsalis</i>	<i>Sogatella furcifera</i>	Lepidoptera Canada <i>Furia gastropachae</i> 2906
PR China <i>Pandora delphacis</i> 659 660	Indonesia, Jawa Barat, Java <i>Pandora delphacis</i> 2092 2093 2095 2096 2409	Japan <i>Entomophaga aulicae</i> 1140 1656 <i>Furia neopyralidarum</i> 1145
<i>Typhlocyba</i> sp.	Indonesia, Sulawesi Selatan, Celebes <i>Conidiobolus</i> nr. <i>coronatus</i> 602 <i>Conidiobolus</i> sp. 604 <i>Pandora delphacis</i> 593 603	Switzerland <i>Entomophaga</i> sp. 393 <i>Furia virescens</i> 427 <i>Zoophthora radicans</i> 404
Yugoslavia <i>Zoophthora radicans</i> 3115	PR China <i>Pandora delphacis</i> 6538 6539	Lepidoptera: Arctiidae <i>Spilosoma niveum</i>
Yugoslavia, Belgrade <i>Zoophthora radicans</i> 3170 3171	<i>Sogatodes pusanus</i>	Japan <i>Entomophaga aulicae</i> 2372 2373 2374
Homoptera: Cicadidae	Indonesia, Jawa Barat, Java <i>Pandora delphacis</i> 2092 2093 2095 2096 2409	Lepidoptera: Gelechiidae <i>Tuta absoluta</i>
<i>Cicadetta puer</i>	Indonesia, Sulawesi Selatan, Celebes <i>Conidiobolus</i> nr. <i>coronatus</i> 602 <i>Conidiobolus</i> sp. 604 <i>Pandora delphacis</i> 593 603	Argentina <i>Zoophthora radicans</i> 6917
Australia <i>Entomophaga australiensis</i> 331 365	PR China <i>Pandora delphacis</i> 6538 6539	Lepidoptera: Gelechiidae <i>Anacamptis humilis</i>
<i>Magiccada septendecim</i>	USA, New York <i>Massospora cicadina</i> 374	Uruguay <i>Zoophthora radicans</i> 4783
Homoptera: Cixiidae		
<i>Oliarus dimidiatus</i>		
Argentina <i>Conidiobolus</i> sp. 7786		

Lepidoptera: Geometridae*Enypia griseata*

Canada, British Columbia

Entomophaga aulicae 2000*Lambdina fiscellaria fiscellaria*

Canada, Newfoundland

Entomophaga aulicae 1991 2900*Zoophthora radicans* 72*Lambdina fiscellaria lugubrosa*

Canada, British Columbia

Entomophaga aulicae 1990*Rheumaptera hastata*

Canada, Ontario

Entomophaga aulicae 2899**Lepidoptera: Lasiocampidae***Dendrolimus spectabilis*

Japan

Basidiobolus ranarum 1139*Entomophaga aulicae* 1655*Malacosoma americanum**Entomophaga maimaiga* 6170 6173
6174*Malacosoma disstria**Entomophaga maimaiga* 4545

Canada, Ontario

Furia gastropachae 5869 5870 5871
5872

USA, Maryland

Furia gastropachae 5545 5546

USA, New York

Batkoa sp. 7370*Entomophaga aulicae* 3602*Furia gastropachae* 5541 5542 5543
5544 5547

USA, Vermont

Furia gastropachae 8926**Lepidoptera: Lymantriidae***Euproctis chrysorrhoea*

USA, Maine

Entomophaga aulicae 7140 7141
7142 7143 7144 7145*Lymantria dispar*

Canada, Ontario

Entomophaga maimaiga 3913

Japan

Entomophaga maimaiga 1390 1391
1392 1400 1658 2370 2371 6171
6172 6212 6224 6253 6254 6255
6256 6257 6258 6264 6265 6266
6267 6268 7104 7105 7112 7113
7114 7116 7185 7186 7187 7188
7189

PR China

Entomophaga maimaiga 7139 7183
7184

Russian Federation

Entomophaga maimaiga 7127

USA, Connecticut

Entomophaga maimaiga 2775

USA, Maryland

Entomophaga maimaiga 5377 5378
5379 5380 5381 5382 5383 5384
5385 5386 5387 5388 5389 5390

USA, Massachusetts

Entomophaga maimaiga 2779 5564

6004 6005 6269 6270 6271 6272

7123 7124 7125 7126 7137 7138

USA, Michigan

Entomophaga maimaiga 6523 6524

6626 6627 6628 6629 6630 6652

6653 6654 6655 6656 6657 6663

6664 6665 6666 6667 6668 6724

6725 6726 6727 6728 6729 7101

7102 7103 7106 7107 7108 7109

7110 7111 7115

USA, New Hampshire

Entomophaga maimaiga 2780

USA, New York

Entomophaga maimaiga 3052 3053

3828 3829 3830 3831 3832 3833

3834 3835 4508 4509 4510 4549

4550 4551 5391 5392 5393 5394

5395 5396 5397 5398 5399 5400

5401 6625

USA, Pennsylvania

Entomophaga maimaiga 7120 7121

7122 7131 7132 7133 7134 7135

7136 7190 7352 7353

USA, Virginia

Entomophaga maimaiga 4504 4505

4506 4507 4552 4553 4554 4555

5568 5570 6169 6218

USA, West Virginia

Entomophaga maimaiga 6168*Orygia vetusta*

USA, California

Entomophaga aulicae 4004 4005

4006 4007 4008

Lepidoptera: Noctuidae

Switzerland

Furia virescens 470 1129

USA, New York

Entomophaga aulicae 3016*?Heliothis* sp.

USA, Georgia

Entomophaga aulicae 251*Aedia leucomelas*

Japan

Entomophaga aulicae 198 998*Autographa gamma*

Japan

Entomophaga aulicae 2363 2365*Mamestra brassicae*

Japan

Entomophaga aulicae 1657 1751

2362 2367 2368 2369

Pandora delphacis 1265*Mocis latipes*

Brazil, Goiás

Conidiobolus coronatus 1884*Panolis flammea*

United Kingdom

Batkoa sp. 6179*Pseudaletia* sp.

Canada, Ontario

Entomophaga aulicae 1999*Sesamia inferens*

Indonesia, Jawa Barat, Java

Zoophthora radicans 2411*Trichoplusia ni*

Mexico

Zoophthora radicans 6003**Lepidoptera: Notodontidae***Ellida caniplaga*

Canada, Ontario

Entomophaga aulicae 2903*Heterocampa* sp.

Canada, Ontario

Entomophaga aulicae 2902*Heterocampa biundata*

Canada, Ontario

Entomophaga aulicae 2905*Heterocampa guttivitta*

Canada, Ontario

Entomophaga aulicae 2904

USA, New York

Entomophaga aulicae 3039 3212

USA, Vermont

Entomophaga aulicae 2843**Lepidoptera: Pieridae***Colias erate poliographus*

Japan

Entomophaga aulicae 2366*Pieris brassicae*

Poland

Zoophthora radicans 1341 1342

1343 1344 1345 1346

Pieris rapae

USA, New York

Furia pieris 781**Lepidoptera: Plutellidae***Plutella* sp.

Australia

Pandora blunckii 3075*Plutella maculipennis*

Germany

Pandora blunckii 217*Plutella xylostella*

Japan

Pandora blunckii 1000*Zoophthora radicans* 1048

Malaysia

Zoophthora radicans 1100

Mexico

Pandora blunckii 6293 6294 6295

6296 6297 6298 6299 6300 6301

6302 6304 6305 6306 6307 6308

6309 6310 6311 6312 6316

Zoophthora radicans 6303 6313

6314 6315

Philippines

Conidiobolus coronatus 2730*Conidiobolus firmipilleus* 2731*Conidiobolus* sp. 2771 2772 2815

2816 3208

Pandora blunckii 2824 3200 3202*Pandora* sp. 3201*Zoophthora radicans* 2732 2893

3204 3205 3206

Fungus by Host and Location

Lepidoptera: Pyralidae
Rhabditida: Rhabditidae

Lepidoptera: Pyralidae

Cnaphalocrocis medinalis
Indonesia, Jawa Barat, Java
Zoophthora radicans 2410
Philippines
Zoophthora radicans 1699

Lepidoptera: Saturniidae

Dryocampa rubicunda
Canada, Ontario
Entomophaga aulicae 2897

Lepidoptera: Tortricidae

Choristoneura fumiferana
Canada, Newfoundland
Entomophaga aulicae 2896 2898
Canada, Ontario
Entomophaga aulicae 1992 1993
1994 1995 1997 1998 2901
Zoophthora radicans 407
USA, Maine
Conidiobolus sp. 92 93 94 147 148
Entomophaga aulicae 51 164 165
166 167 168 172
Zoophthora radicans 21 44 45 50 52
88 141 142 143 144 145 146 163
221 223 224 225 226 227 228 229
230 231 232 233 234 235

Epinotia aporema

Argentina
Zoophthora radicans 5814

Uruguay

Conidiobolus coronatus 4797
Zoophthora radicans 4781 4782
4784 4785

Merophyas divulsana

Australia
Zoophthora radicans 1082

Ptycholoma aeriferana

Japan
Zoophthora radicans 1674 1675

Tortrix viridana

France
Zoophthora radicans 68

Orthoptera: Acrididae

Japan
Entomophaga asiatica 1393
USA, Montana
Conidiobolus thromboides 22
Camnula pellucida
USA, Arizona
Entomophaga macleodii 496 618
619 620 621 624 628 629 765 767
768 769 773 774 777 778 779
USA, Oregon
Entomophaga macleodii 4948 4949
4950 4951 4952 4953

Dissosteira carolina

Canada, Ontario
Entomophaga macleodii 375 376

USA, New York
Entomophaga macleodii 382 499

Melanoplus bivittatus

USA, Arizona
Entomophaga calopteni 497

USA, Montana
Entomophaga calopteni 408

USA, South Dakota
Entomophaga calopteni 498

USA, Wyoming
Entomophaga calopteni 390

Melanoplus cuneatus

USA, Arizona
Entomophaga calopteni 623 626
646

Melanoplus differentialis

USA, Kansas
Entomophaga calopteni 2522

Melanoplus flavidus

USA, Wyoming
Entomophaga calopteni 383

Melanoplus packardii

USA, Arizona
Entomophaga calopteni 625

Parapodisma sp.

Japan
Entomophaga asiatica 1659

Praxibulus sp.

Australia
Entomophaga praxibuli 840

Orthoptera: Tettigoniidae

Brazil, Goiás
Conidiobolus sp. 1477

Thysanoptera: Thripidae

USA, Vermont
Conidiobolus coronatus 6512 9914

Frankliniella occidentalis

USA, Florida
Conidiobolus coronatus 3222

Thrips tabaci

Germany
Entomophthora thripidum 5868
6517 6518 6519 6520 6521 6522
6525

Switzerland
Neozygites parvispora 5620 5621

Trichoptera

Canada, Québec
Erynia curvispora 3244

United Kingdom
Erynia rhizospora 1440 1441 1443
Pandora dipterigena 2406

USA, Maine
Erynia rhizospora 219

USA, New York
Erynia rhizospora 801 2276

Wales
Erynia rhizospora 1442

Trichoptera: Hydropsychidae

United Kingdom
Erynia rhizospora 2407

Chordata • Amphibia

Anura: Bufonidae

Bufo bufo
United Kingdom
Basidiobolus sp. 9894 9895 9896
9897 9898 9899 9906 9907 9908

Anura: Dendrobatidae

Dendrobates leucomelas
Switzerland
Basidiobolus sp. 9888

Anura: Discoglossidae

Alytes sp.
United Kingdom
Basidiobolus sp. 9903 9904 9905
9909 9910 9911 9912

Discoglossus sp.

Italy
Basidiobolus sp. 9900 9901 9902

Anura: Microhylidae

Dyscophus guineti
Switzerland
Basidiobolus sp. 9887

Anura: Ranidae

Hylarana erythraea
Malaysia
Basidiobolus sp. 9890
Hylarana glandulosa
Malaysia
Basidiobolus sp. 9892
Hylarana labialis
Malaysia
Basidiobolus sp. 9891 9893

Caudata: Salamandridae

Triturus marmoratus
Switzerland
Basidiobolus sp. 9889

Chordata • Mammalia

Perissodactyla: Equidae

Equus ferus caballus
USA, Louisiana
Conidiobolus coronatus 2715
Conidiobolus lamprauges 2338

Primates: Hominidae

Homo sapiens
Indonesia
Basidiobolus haptosporus 261 272
Location not specified
Basidiobolus sp. 273
Nigeria
Conidiobolus coronatus 206
USA, Texas
Conidiobolus sp. 2928

Nemata • Secernentea

Rhabditida: Rhabditidae

Cruznema lambdiense
USA, Tennessee
Macrobiotophthora vermicola 650

Vertebrata • Reptilia

Squamata: Colubridae

Elaphe sp.

Germany

Schizangiella sp. 2237 2239

Elaphe obsoleta

USA, Virginia

Schizangiella serpentis 8000 8047

Squamata: Viperidae

Crotalus horridus

USA, Maryland

Schizangiella serpentis 203

Fungi

Basidiomycota • Hymenomycetes

Agaricales

Volvariella volvacea

USA, Puerto Rico

Conidiobolus coronatus 1147

USA, New York

Conidiobolus coronatus 3087

Geographical Origin

Antarctica

Victoria Land
Conidiobolus antarcticus 6913

Argentina

Buenos Aires
Conidiobolus coronatus 7203
Conidiobolus sp. 7786
Zoophthora radicans 5814 6917 7208
7455 7788 7789 8466
Zoophthora sp. 7454

Australia

Conidiobolus sp. 2924 2925 2926 2927
Pandora neoaphidis 381
Australian Capital Territory
Pandora neoaphidis 835
New South Wales
Batkoa apiculata 839
Conidiobolus coronatus 471
Conidiobolus obscurus 354 824 834
Entomophaga praxibuli 840
Pandora kondoiensis 828 836 837
Pandora neoaphidis 827 829 838
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8133-1/BPH-1 *Conidiobolus* sp. 564
8133-1/BPH-2 *Conidiobolus coronatus* 563
8133-2 *Conidiobolus* sp. 604
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84626-7-1 *Entomophaga maimaiga* 1392
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2 *Pandora neoaphidis* 3249
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TL-12 *Basidiobolus* sp. 2049
TL-13 *Basidiobolus* sp. 2050
TT-5 *Basidiobolus* sp. 2051
TT-9 *Basidiobolus* sp. 2052

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47 *Conidiobolus obscurus* 9536

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A-12 *Zoophthora radicans* 1585
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 B-33 *Zoophthora radicans* 1503
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2	<i>Conidiobolus thromboides</i>	141	<i>Zoophtora radicans</i>	251	<i>Entomophaga aulicae</i>
5	<i>Conidiobolus thromboides</i>	142	<i>Zoophtora radicans</i>	260	<i>Basidiobolus ranarum</i>
13	<i>Zoophtora radicans</i>	143	<i>Zoophtora radicans</i>	261	<i>Basidiobolus haptosporus</i>
15	<i>Conidiobolus thromboides</i>	144	<i>Zoophtora radicans</i>	262	<i>Basidiobolus haptosporus</i>
21	<i>Zoophtora radicans</i>	145	<i>Zoophtora radicans</i>	263	<i>Basidiobolus haptosporus</i>
22	<i>Conidiobolus thromboides</i>	146	<i>Zoophtora radicans</i>	264	<i>Basidiobolus haptosporus</i>
29	<i>Conidiobolus thromboides</i>	147	<i>Conidiobolus sp.</i>	265	<i>Basidiobolus microsporus</i>
39	<i>Conidiobolus thromboides</i>	148	<i>Conidiobolus sp.</i>	267	<i>Basidiobolus microsporus</i>
40	<i>Conidiobolus thromboides</i>	161	<i>Zoophtora radicans</i>	268	<i>Basidiobolus microsporus</i>
41	<i>Conidiobolus thromboides</i>	162	<i>Zoophtora radicans</i>	269	<i>Basidiobolus microsporus</i>
42	<i>Conidiobolus thromboides</i>	163	<i>Zoophtora radicans</i>	270	<i>Basidiobolus sp.</i>
44	<i>Zoophtora radicans</i>	164	<i>Entomophaga aulicae</i>	271	<i>Basidiobolus sp.</i>
45	<i>Zoophtora radicans</i>	165	<i>Entomophaga aulicae</i>	272	<i>Basidiobolus haptosporus</i>
50	<i>Zoophtora radicans</i>	166	<i>Entomophaga aulicae</i>	273	<i>Basidiobolus sp.</i>
51	<i>Entomophaga aulicae</i>	167	<i>Entomophaga aulicae</i>	274	<i>Conidiobolus coronatus</i>
52	<i>Zoophtora radicans</i>	168	<i>Entomophaga aulicae</i>	328	<i>Entomophaga australiensis</i>
57	<i>Conidiobolus thromboides</i>	172	<i>Entomophaga aulicae</i>	331	<i>Entomophaga australiensis</i>
58	<i>Conidiobolus thromboides</i>	174	<i>Batkoa apiculata</i>	349	<i>Conidiobolus coronatus</i>
59	<i>Conidiobolus thromboides</i>	181	<i>Pandora neoaphidis</i>	352	<i>Zoophtora phalloides</i>
63	<i>Conidiobolus thromboides</i>	182	<i>Conidiobolus obscurus</i>	354	<i>Conidiobolus obscurus</i>
64	<i>Conidiobolus thromboides</i>	183	<i>Zoophtora radicans</i>	355	<i>Conidiobolus obscurus</i>
67	<i>Batkoa apiculata</i>	184	<i>Zoophtora radicans</i>	359	<i>Zoophtora radicans</i>
68	<i>Zoophtora radicans</i>	185	<i>Zoophtora radicans</i>	362	<i>Pandora nouryi</i>
70	<i>Conidiobolus thromboides</i>	186	<i>Zoophtora radicans</i>	363	<i>Conidiobolus thromboides</i>
72	<i>Zoophtora radicans</i>	187	<i>Zoophtora radicans</i>	365	<i>Entomophaga australiensis</i>
73	<i>Conidiobolus thromboides</i>	188	<i>Zoophtora radicans</i>	366	<i>Pandora nouryi</i>
74	<i>Conidiobolus obscurus</i>	189	<i>Zoophtora radicans</i>	369	<i>Pandora kondoiensis</i>
75	<i>Zoophtora radicans</i>	191	<i>Zoophtora phytonomi</i>	370	<i>Zoophtora radicans</i>
78	<i>Pandora neoaphidis</i>	192	<i>Zoophtora phytonomi</i>	374	<i>Massospora cicadina</i>
79	<i>Conidiobolus osmodes</i>	193	<i>Conidiobolus osmodes</i>	375	<i>Entomophaga macleodii</i>
80	<i>Conidiobolus sp.</i>	194	<i>Conidiobolus thromboides</i>	376	<i>Entomophaga macleodii</i>
81	<i>Conidiobolus sp.</i>	198	<i>Entomophaga aulicae</i>	379	<i>Zoophtora radicans</i>
83	<i>Conidiobolus thromboides</i>	199	<i>Pandora nouryi</i>	381	<i>Pandora neoaphidis</i>
84	<i>Conidiobolus thromboides</i>	202	<i>Zoophtora phytonomi</i>	382	<i>Entomophaga macleodii</i>
85	<i>Conidiobolus thromboides</i>	203	<i>Schizangiella serpentis</i>	383	<i>Entomophaga calopteni</i>
86	<i>Conidiobolus thromboides</i>	205	<i>Conidiobolus coronatus</i>	387	<i>Entomophthora culicis</i>
87	<i>Conidiobolus thromboides</i>	206	<i>Conidiobolus coronatus</i>	388	<i>Zoophtora radicans</i>
88	<i>Zoophtora radicans</i>	207	<i>Zoophtora occidentalis</i>	389	<i>Zoophtora radicans</i>
92	<i>Conidiobolus sp.</i>	208	<i>Conidiobolus thromboides</i>	390	<i>Entomophaga calopteni</i>
93	<i>Conidiobolus sp.</i>	211	<i>Conidiobolus sp.</i>	391	<i>Conidiobolus sp.</i>
94	<i>Conidiobolus sp.</i>	214	<i>Batkoa gigantea</i>	392	<i>Entomophthora muscae</i>
97	<i>Conidiobolus obscurus</i>	215	<i>Batkoa gigantea</i>	393	<i>Entomophaga sp.</i>
99	<i>Conidiobolus thromboides</i>	217	<i>Pandora blunckii</i>	394	<i>Furia virescens</i>
100	<i>Conidiobolus thromboides</i>	219	<i>Erynia rhizospora</i>	395	<i>Batkoa apiculata</i>
101	<i>Conidiobolus thromboides</i>	221	<i>Zoophtora radicans</i>	396	<i>Zoophtora anglica</i>
102	<i>Conidiobolus thromboides</i>	223	<i>Zoophtora radicans</i>	397	<i>Pandora dipterigena</i>
103	<i>Zoophtora radicans</i>	224	<i>Zoophtora radicans</i>	399	<i>Erynia ovispora</i>
104	<i>Zoophtora radicans</i>	225	<i>Zoophtora radicans</i>	400	<i>Erynia ovispora</i>
105	<i>Zoophtora radicans</i>	226	<i>Zoophtora radicans</i>	403	<i>Batkoa gigantea</i>
106	<i>Zoophtora radicans</i>	227	<i>Zoophtora radicans</i>	404	<i>Zoophtora radicans</i>
107	<i>Zoophtora radicans</i>	228	<i>Zoophtora radicans</i>	405	<i>Conidiobolus coronatus</i>
108	<i>Zoophtora radicans</i>	229	<i>Zoophtora radicans</i>	406	<i>Conidiobolus coronatus</i>
109	<i>Zoophtora radicans</i>	230	<i>Zoophtora radicans</i>	407	<i>Zoophtora radicans</i>
110	<i>Zoophtora radicans</i>	231	<i>Zoophtora radicans</i>	408	<i>Entomophaga calopteni</i>
111	<i>Zoophtora radicans</i>	232	<i>Zoophtora radicans</i>	418	<i>Conidiobolus coronatus</i>
112	<i>Zoophtora radicans</i>	233	<i>Zoophtora radicans</i>	419	<i>Conidiobolus coronatus</i>
113	<i>Zoophtora phytonomi</i>	234	<i>Zoophtora radicans</i>	421	<i>Conidiobolus coronatus</i>
114	<i>Zoophtora radicans</i>	235	<i>Zoophtora radicans</i>	422	<i>Conidiobolus coronatus</i>
115	<i>Conidiobolus thromboides</i>	237	<i>Zoophtora radicans</i>	425	<i>Zoophtora aphidis</i>
120	<i>Conidiobolus thromboides</i>	238	<i>Zoophtora radicans</i>	426	<i>Zoophtora lanceolata</i>
121	<i>Conidiobolus obscurus</i>	239	<i>Zoophtora radicans</i>	427	<i>Furia virescens</i>
122	<i>Conidiobolus obscurus</i>	242	<i>Conidiobolus thromboides</i>	434	<i>Conidiobolus obscurus</i>
124	<i>Conidiobolus obscurus</i>	243	<i>Conidiobolus obscurus</i>	447	<i>Conidiobolus osmodes</i>
126	<i>Zoophtora radicans</i>	244	<i>Conidiobolus thromboides</i>	448	<i>Conidiobolus rhyosporus</i>
128	<i>Pandora neoaphidis</i>	245	<i>Conidiobolus thromboides</i>	449	<i>Conidiobolus bangalorensis</i>
129	<i>Batkoa apiculata</i>	246	<i>Conidiobolus thromboides</i>	450	<i>Conidiobolus paulus</i>
131	<i>Pandora dipterigena</i>	247	<i>Conidiobolus thromboides</i>	451	<i>Conidiobolus adiaeretus</i>
133	<i>Conidiobolus obscurus</i>	248	<i>Conidiobolus thromboides</i>	452	<i>Conidiobolus brefeldianus</i>
134	<i>Pandora delphacis</i>	249	<i>Conidiobolus thromboides</i>	453	<i>Conidiobolus pumilus</i>
139	<i>Zoophtora radicans</i>	250	<i>Conidiobolus thromboides</i>	454	<i>Entomophthora muscae</i>

458 Pandora delphacis	636 Pandora neoaphidis	834 Conidiobolus obscurus
459 Pandora delphacis	637 Pandora neoaphidis	835 Pandora neoaphidis
460 Pandora delphacis	638 Pandora neoaphidis	836 Pandora kondoiensis
461 Pandora delphacis	639 Pandora neoaphidis	837 Pandora kondoiensis
468 Zoophthora lanceolata	640 Eryniopsis caroliniana	838 Pandora neoaphidis
469 Zoophthora lanceolata	641 Eryniopsis caroliniana	839 Batkoa apiculata
470 Furia virescens	642 Eryniopsis caroliniana	840 Entomophaga praxibuli
471 Conidiobolus coronatus	646 Entomophaga calopteni	899 Zoophthora radicans
478 Pandora delphacis	649 Conidiobolus thromboides	914 Zoophthora radicans
491 Zoophthora radicans	650 Macrobiotophthora vermicola	915 Pandora blunckii
496 Entomophaga macleodii	651 Entomophthora muscae	916 Zoophthora anglica
497 Entomophaga calopteni	655 Conidiobolus coronatus	917 Pandora blunckii
498 Entomophaga calopteni	657 Pandora delphacis	919 Batkoa apiculata
499 Entomophaga macleodii	659 Pandora delphacis	920 Pandora blunckii
500 Entomophaga calopteni	660 Pandora delphacis	926 Zoophthora anglica
511 Conidiobolus coronatus	662 Neozygites sp.	927 Batkoa apiculata
512 Conidiobolus coronatus	664 Pandora delphacis	993 Pandora neoaphidis
514 Conidiobolus coronatus	665 Pandora delphacis	997 Conidiobolus coronatus
517 Conidiobolus sp.	666 Pandora delphacis	998 Entomophaga aulicae
520 Conidiobolus coronatus	667 Pandora delphacis	999 Conidiobolus sp.
522 Conidiobolus sp.	668 Pandora delphacis	1000 Pandora blunckii
523 Conidiobolus coronatus	669 Pandora delphacis	1004 Pandora blunckii
524 Conidiobolus coronatus	670 Pandora delphacis	1006 Conidiobolus thromboides
525 Conidiobolus coronatus	672 Pandora delphacis	1018 Zoophthora radicans
528 Conidiobolus coronatus	673 Pandora delphacis	1019 Zoophthora radicans
556 Entomophthora muscae	674 Pandora delphacis	1020 Zoophthora radicans
557 Entomophthora muscae	676 Pandora delphacis	1021 Zoophthora radicans
563 Conidiobolus coronatus	682 Pandora delphacis	1048 Zoophthora radicans
564 Conidiobolus sp.	685 Zoophthora radicans	1050 Zoophthora radicans
565 Conidiobolus coronatus	686 Pandora delphacis	1082 Zoophthora radicans
567 Conidiobolus coronatus	698 Pandora delphacis	1100 Zoophthora radicans
575 Pandora delphacis	707 Entomophthora muscae	1101 Pandora delphacis
579 Pandora delphacis	713 Pandora delphacis	1124 Pandora delphacis
580 Pandora delphacis	716 Pandora delphacis	1125 Zoophthora radicans
581 Entomophaga australiensis	742 Furia americana	1126 Entomophaga sp.
593 Pandora delphacis	743 Entomophaga australiensis	1129 Furia virescens
595 Conidiobolus sp.	750 Erynia aquatica	1130 Zoophthora radicans
596 Conidiobolus sp.	764 Erynia aquatica	1131 Conidiobolus obscurus
597 Conidiobolus coronatus	765 Entomophaga macleodii	1132 Pandora delphacis
598 Conidiobolus nr. coronatus	767 Entomophaga macleodii	1133 Pandora delphacis
599 Conidiobolus nr. coronatus	768 Entomophaga macleodii	1134 Pandora neoaphidis
600 Conidiobolus nr. coronatus	769 Entomophaga macleodii	1136 Zoophthora radicans
602 Conidiobolus nr. coronatus	770 Entomophaga macleodii	1137 Pandora neoaphidis
603 Pandora delphacis	771 Entomophaga macleodii	1139 Basidiobolus ranarum
604 Conidiobolus sp.	772 Entomophaga macleodii	1140 Entomophaga aulicae
605 Conidiobolus sp.	773 Entomophaga macleodii	1145 Furia neopyralidarum
606 Conidiobolus sp.	774 Entomophaga macleodii	1146 Batkoa apiculata
608 Pandora neoaphidis	775 Entomophaga macleodii	1147 Conidiobolus coronatus
609 Pandora neoaphidis	776 Entomophaga macleodii	1227 Zoophthora radicans
610 Pandora neoaphidis	777 Entomophaga macleodii	1228 Zoophthora radicans
611 Pandora neoaphidis	778 Entomophaga macleodii	1229 Zoophthora radicans
612 Pandora neoaphidis	779 Entomophaga macleodii	1230 Entomophaga sp.
613 Pandora neoaphidis	781 Furia pieris	1231 Zoophthora radicans
614 Pandora neoaphidis	789 Zoophthora radicans	1232 Zoophthora radicans
618 Entomophaga macleodii	790 Zoophthora radicans	1233 Zoophthora radicans
619 Entomophaga macleodii	791 Entomophaga australiensis	1234 Zoophthora radicans
620 Entomophaga macleodii	800 Zoophthora radicans	1236 Zoophthora radicans
621 Entomophaga macleodii	801 Erynia rhizospora	1237 Zoophthora radicans
623 Entomophaga calopteni	803 Entomophthora muscae	1238 Pandora delphacis
624 Entomophaga macleodii	822 Zoophthora radicans	1239 Zoophthora radicans
625 Entomophaga calopteni	823 Zoophthora radicans	1240 Furia americana
626 Entomophaga calopteni	824 Conidiobolus obscurus	1242 Furia americana
628 Entomophaga macleodii	825 Pandora kondoiensis	1261 Zoophthora radicans
629 Entomophaga macleodii	826 Entomophthora muscae	1262 Zoophthora radicans
630 Conidiobolus thromboides	827 Pandora neoaphidis	1263 Zoophthora radicans
631 Conidiobolus thromboides	828 Pandora kondoiensis	1264 Pandora delphacis
632 Conidiobolus thromboides	829 Pandora neoaphidis	1265 Pandora delphacis
633 Conidiobolus thromboides	830 Pandora neoaphidis	1268 Pandora delphacis
634 Conidiobolus thromboides	832 Conidiobolus obscurus	1336 Zoophthora radicans
635 Conidiobolus thromboides	833 Pandora neoaphidis	1337 Zoophthora radicans

1339	<i>Furia ithacensis</i>	1600	<i>Pandora neoaphidis</i>	1884	<i>Conidiobolus coronatus</i>
1340	<i>Furia ithacensis</i>	1601	<i>Pandora neoaphidis</i>	1887	<i>Pandora dipterigena</i>
1341	<i>Zoophthora radicans</i>	1602	<i>Pandora neoaphidis</i>	1888	<i>Entomophaga australiensis</i>
1342	<i>Zoophthora radicans</i>	1603	<i>Pandora neoaphidis</i>	1920	<i>Entomophaga australiensis</i>
1343	<i>Zoophthora radicans</i>	1604	<i>Pandora neoaphidis</i>	1921	<i>Pandora dipterigena</i>
1344	<i>Zoophthora radicans</i>	1605	<i>Pandora neoaphidis</i>	1923	<i>Pandora dipterigena</i>
1345	<i>Zoophthora radicans</i>	1606	<i>Pandora neoaphidis</i>	1928	<i>Zoophthora radicans</i>
1346	<i>Zoophthora radicans</i>	1607	<i>Pandora neoaphidis</i>	1929	<i>Zoophthora radicans</i>
1347	<i>Basidiobolus haptosporus</i>	1609	<i>Pandora neoaphidis</i>	1930	<i>Zoophthora radicans</i>
1350	<i>Zoophthora radicans</i>	1610	<i>Pandora neoaphidis</i>	1931	<i>Zoophthora radicans</i>
1390	<i>Entomophaga maimaiga</i>	1611	<i>Pandora neoaphidis</i>	1932	<i>Zoophthora radicans</i>
1391	<i>Entomophaga maimaiga</i>	1612	<i>Pandora neoaphidis</i>	1933	<i>Zoophthora radicans</i>
1392	<i>Entomophaga maimaiga</i>	1613	<i>Pandora neoaphidis</i>	1934	<i>Zoophthora radicans</i>
1393	<i>Entomophaga asiatica</i>	1615	<i>Pandora neoaphidis</i>	1935	<i>Zoophthora radicans</i>
1400	<i>Entomophaga maimaiga</i>	1616	<i>Pandora neoaphidis</i>	1936	<i>Pandora delphacis</i>
1422	<i>Pandora dipterigena</i>	1617	<i>Pandora neoaphidis</i>	1937	<i>Zoophthora radicans</i>
1426	<i>Conidiobolus</i> sp.	1618	<i>Pandora neoaphidis</i>	1938	<i>Zoophthora radicans</i>
1427	<i>Batkoa major</i>	1655	<i>Entomophaga aulicae</i>	1967	<i>Conidiobolus</i> sp.
1428	<i>Zoophthora radicans</i>	1656	<i>Entomophaga aulicae</i>	1981	<i>Pandora neoaphidis</i>
1439	<i>Erynia conica</i>	1657	<i>Entomophaga aulicae</i>	1985	<i>Pandora neoaphidis</i>
1440	<i>Erynia rhizospora</i>	1658	<i>Entomophaga maimaiga</i>	1986	<i>Pandora neoaphidis</i>
1441	<i>Erynia rhizospora</i>	1659	<i>Entomophaga asiatica</i>	1987	<i>Pandora neoaphidis</i>
1442	<i>Erynia rhizospora</i>	1660	<i>Batkoa apiculata</i>	1990	<i>Entomophaga aulicae</i>
1443	<i>Erynia rhizospora</i>	1661	<i>Batkoa apiculata</i>	1991	<i>Entomophaga aulicae</i>
1444	<i>Conidiobolus</i> sp.	1662	<i>Conidiobolus pseudapiculatus</i>	1992	<i>Entomophaga aulicae</i>
1445	<i>Conidiobolus</i> sp.	1664	<i>Conidiobolus pseudapiculatus</i>	1993	<i>Entomophaga aulicae</i>
1477	<i>Conidiobolus</i> sp.	1665	<i>Conidiobolus pseudapiculatus</i>	1994	<i>Entomophaga aulicae</i>
1485	<i>Conidiobolus</i> sp.	1672	<i>Conidiobolus</i> sp.	1995	<i>Entomophaga aulicae</i>
1486	<i>Conidiobolus</i> sp.	1674	<i>Zoophthora radicans</i>	1997	<i>Entomophaga aulicae</i>
1487	<i>Conidiobolus</i> sp.	1675	<i>Zoophthora radicans</i>	1998	<i>Entomophaga aulicae</i>
1488	<i>Conidiobolus</i> sp.	1695	<i>Pandora neoaphidis</i>	1999	<i>Entomophaga aulicae</i>
1492	<i>Zoophthora radicans</i>	1696	<i>Pandora neoaphidis</i>	2000	<i>Entomophaga aulicae</i>
1493	<i>Zoophthora radicans</i>	1699	<i>Zoophthora radicans</i>	2014	<i>Entomophthora muscae</i>
1494	<i>Zoophthora radicans</i>	1715	<i>Pandora blunckii</i>	2016	<i>Pandora neoaphidis</i>
1495	<i>Zoophthora radicans</i>	1716	<i>Pandora blunckii</i>	2017	<i>Pandora neoaphidis</i>
1496	<i>Zoophthora radicans</i>	1717	<i>Pandora blunckii</i>	2018	<i>Pandora neoaphidis</i>
1497	<i>Zoophthora radicans</i>	1718	<i>Pandora blunckii</i>	2019	<i>Pandora neoaphidis</i>
1498	<i>Zoophthora radicans</i>	1719	<i>Zoophthora radicans</i>	2020	<i>Pandora neoaphidis</i>
1499	<i>Zoophthora radicans</i>	1720	<i>Pandora dipterigena</i>	2028	<i>Pandora delphacis</i>
1500	<i>Zoophthora radicans</i>	1730	<i>Pandora delphacis</i>	2046	<i>Pandora delphacis</i>
1501	<i>Zoophthora radicans</i>	1731	<i>Pandora delphacis</i>	2047	<i>Pandora delphacis</i>
1502	<i>Zoophthora radicans</i>	1733	<i>Conidiobolus thromboides</i>	2048	<i>Basidiobolus</i> sp.
1503	<i>Zoophthora radicans</i>	1734	<i>Conidiobolus thromboides</i>	2049	<i>Basidiobolus</i> sp.
1504	<i>Zoophthora radicans</i>	1735	<i>Conidiobolus thromboides</i>	2050	<i>Basidiobolus</i> sp.
1541	<i>Zoophthora radicans</i>	1736	<i>Conidiobolus coronatus</i>	2051	<i>Basidiobolus</i> sp.
1542	<i>Zoophthora radicans</i>	1737	<i>Conidiobolus coronatus</i>	2052	<i>Basidiobolus</i> sp.
1543	<i>Zoophthora radicans</i>	1738	<i>Conidiobolus coronatus</i>	2085	<i>Pandora neoaphidis</i>
1544	<i>Zoophthora radicans</i>	1739	<i>Zoophthora anglica</i>	2086	<i>Pandora neoaphidis</i>
1570	<i>Pandora neoaphidis</i>	1741	<i>Conidiobolus obscurus</i>	2087	<i>Entomophthora muscae</i>
1572	<i>Conidiobolus coronatus</i>	1742	<i>Conidiobolus</i> nr. <i>coronatus</i>	2088	<i>Entomophthora muscae</i>
1573	<i>Conidiobolus coronatus</i>	1743	<i>Conidiobolus</i> nr. <i>coronatus</i>	2089	<i>Entomophthora muscae</i>
1574	<i>Conidiobolus coronatus</i>	1746	<i>Entomophaga maimaiga</i>	2091	<i>Pandora delphacis</i>
1575	<i>Conidiobolus coronatus</i>	1751	<i>Entomophaga aulicae</i>	2092	<i>Pandora delphacis</i>
1581	<i>Zoophthora radicans</i>	1752	<i>Erynia conica</i>	2093	<i>Pandora delphacis</i>
1582	<i>Zoophthora radicans</i>	1753	<i>Erynia conica</i>	2094	<i>Pandora delphacis</i>
1583	<i>Zoophthora radicans</i>	1754	<i>Erynia curvispora</i>	2095	<i>Pandora delphacis</i>
1584	<i>Zoophthora radicans</i>	1784	<i>Pandora neoaphidis</i>	2096	<i>Pandora delphacis</i>
1585	<i>Zoophthora radicans</i>	1785	<i>Pandora neoaphidis</i>	2108	<i>Pandora neoaphidis</i>
1586	<i>Zoophthora radicans</i>	1786	<i>Pandora neoaphidis</i>	2109	<i>Pandora neoaphidis</i>
1587	<i>Zoophthora radicans</i>	1824	<i>Pandora neoaphidis</i>	2110	<i>Pandora neoaphidis</i>
1588	<i>Zoophthora radicans</i>	1825	<i>Pandora neoaphidis</i>	2112	<i>Pandora neoaphidis</i>
1589	<i>Zoophthora radicans</i>	1826	<i>Pandora neoaphidis</i>	2114	<i>Pandora neoaphidis</i>
1590	<i>Zoophthora radicans</i>	1827	<i>Pandora neoaphidis</i>	2115	<i>Pandora neoaphidis</i>
1591	<i>Zoophthora radicans</i>	1841	<i>Zoophthora radicans</i>	2116	<i>Pandora neoaphidis</i>
1593	<i>Zoophthora radicans</i>	1860	<i>Entomophthora chromaphidis</i>	2117	<i>Pandora neoaphidis</i>
1594	<i>Zoophthora radicans</i>	1862	<i>Entomophthora chromaphidis</i>	2118	<i>Pandora neoaphidis</i>
1595	<i>Zoophthora radicans</i>	1863	<i>Entomophthora chromaphidis</i>	2119	<i>Pandora neoaphidis</i>
1596	<i>Pandora neoaphidis</i>	1870	<i>Erynia sciarae</i>	2120	<i>Pandora neoaphidis</i>
1597	<i>Pandora neoaphidis</i>	1876	<i>Conidiobolus coronatus</i>	2121	<i>Pandora neoaphidis</i>
1598	<i>Pandora neoaphidis</i>	1881	<i>Entomophaga</i> sp.	2122	<i>Pandora neoaphidis</i>

2123 Pandora neoaphidis	2496 Conidiobolus pseudapiculatus	2718 Zoophthora radicans
2124 Pandora neoaphidis	2497 Conidiobolus pseudapiculatus	2719 Zoophthora radicans
2128 Pandora neoaphidis	2498 Conidiobolus sp.	2720 Zoophthora radicans
2130 Conidiobolus sp.	2499 Zoophthora radicans	2721 Entomophaga praxibuli
2147 Conidiobolus sp.	2500 Zoophthora radicans	2730 Conidiobolus coronatus
2148 Conidiobolus sp.	2501 Zoophthora radicans	2731 Conidiobolus firmipilleus
2172 Entomophthora muscae	2502 Conidiobolus pseudapiculatus	2732 Zoophthora radicans
2188 Zoophthora phytonomi	2503 Zoophthora radicans	2754 Pandora neoaphidis
2192 Furia americana	2504 Batkoa apiculata	2755 Pandora neoaphidis
2193 Conidiobolus sp.	2505 Zoophthora anglica	2756 Pandora neoaphidis
2194 Furia americana	2506 Zoophthora radicans	2757 Pandora neoaphidis
2196 Zoophthora radicans	2522 Entomophaga calopteni	2758 Pandora neoaphidis
2237 Schizangiella sp.	2523 Zoophthora radicans	2760 Pandora neoaphidis
2239 Schizangiella sp.	2535 Eryniopsis ptychopterae	2761 Pandora neoaphidis
2241 Zoophthora radicans	2540 Entomophthora schizophorae	2762 Pandora neoaphidis
2242 Zoophthora radicans	2541 Entomophthora schizophorae	2763 Pandora neoaphidis
2243 Zoophthora radicans	2542 Entomophthora muscae	2766 Pandora neoaphidis
2244 Zoophthora radicans	2549 Zoophthora radicans	2767 Pandora neoaphidis
2245 Zoophthora radicans	2550 Zoophthora radicans	2768 Pandora neoaphidis
2246 Zoophthora radicans	2551 Zoophthora radicans	2769 Pandora neoaphidis
2256 Zoophthora radicans	2552 Zoophthora radicans	2771 Conidiobolus sp.
2257 Zoophthora radicans	2554 Zoophthora radicans	2772 Conidiobolus sp.
2258 Zoophthora radicans	2558 Zoophthora radicans	2773 Pandora neoaphidis
2259 Zoophthora radicans	2583 Pandora neoaphidis	2775 Entomophaga maimaiga
2260 Zoophthora radicans	2584 Pandora neoaphidis	2779 Entomophaga maimaiga
2261 Zoophthora radicans	2585 Pandora neoaphidis	2780 Entomophaga maimaiga
2262 Zoophthora radicans	2587 Pandora neoaphidis	2781 Pandora neoaphidis
2263 Entomophthora muscae	2588 Pandora neoaphidis	2782 Pandora neoaphidis
2264 Entomophthora muscae	2589 Pandora neoaphidis	2783 Pandora neoaphidis
2265 Entomophthora muscae	2591 Pandora neoaphidis	2784 Pandora neoaphidis
2266 Entomophthora muscae	2592 Pandora neoaphidis	2787 Basidiobolus ranarum
2273 Entomophaga conglomerata	2593 Pandora neoaphidis	2811 Zoophthora radicans
2274 Erynia conica	2594 Pandora neoaphidis	2812 Conidiobolus coronatus
2275 Erynia conica	2600 Zoophthora radicans	2813 Conidiobolus coronatus
2276 Erynia rhizospora	2601 Zoophthora radicans	2814 Conidiobolus coronatus
2280 Pandora neoaphidis	2661 Entomophaga maimaiga	2815 Conidiobolus sp.
2281 Zoophthora phalloides	2665 Entomophthora muscae	2816 Conidiobolus sp.
2282 Zoophthora radicans	2666 Zoophthora radicans	2819 Conidiobolus sp.
2283 Zoophthora radicans	2667 Entomophthora schizophorae	2824 Pandora blunckii
2284 Zoophthora radicans	2668 Entomophthora muscae	2828 Conidiobolus thromboides
2285 Zoophthora radicans	2670 Entomophthora muscae	2829 Conidiobolus thromboides
2286 Zoophthora radicans	2671 Eryniopsis ptychopterae	2837 Pandora neoaphidis
2287 Zoophthora radicans	2672 Conidiobolus sp.	2838 Pandora neoaphidis
2288 Zoophthora radicans	2673 Entomophthora muscae	2839 Pandora neoaphidis
2289 Zoophthora radicans	2674 Entomophthora muscae	2840 Pandora neoaphidis
2293 Pandora neoaphidis	2675 Entomophthora muscae	2841 Zoophthora occidentalis
2298 Pandora neoaphidis	2677 Neozygites tetranynchi	2842 Pandora neoaphidis
2317 Entomophthora muscae	2678 Entomophthora muscae	2843 Entomophaga aulicae
2338 Conidiobolus lamprauges	2696 Zoophthora radicans	2844 Pandora neoaphidis
2362 Entomophaga aulicae	2697 Zoophthora radicans	2845 Pandora neoaphidis
2363 Entomophaga aulicae	2698 Zoophthora radicans	2846 Pandora neoaphidis
2365 Entomophaga aulicae	2699 Zoophthora radicans	2847 Pandora neoaphidis
2366 Entomophaga aulicae	2700 Zoophthora radicans	2848 Pandora neoaphidis
2367 Entomophaga aulicae	2701 Zoophthora radicans	2849 Conidiobolus thromboides
2368 Entomophaga aulicae	2702 Zoophthora radicans	2850 Conidiobolus thromboides
2369 Entomophaga aulicae	2703 Zoophthora radicans	2851 Pandora neoaphidis
2370 Entomophaga maimaiga	2704 Zoophthora radicans	2852 Pandora neoaphidis
2371 Entomophaga maimaiga	2705 Zoophthora radicans	2853 Pandora neoaphidis
2372 Entomophaga aulicae	2706 Zoophthora radicans	2854 Pandora neoaphidis
2373 Entomophaga aulicae	2707 Zoophthora radicans	2855 Pandora neoaphidis
2374 Entomophaga aulicae	2708 Zoophthora radicans	2856 Pandora neoaphidis
2400 Zoophthora radicans	2709 Zoophthora radicans	2865 Pandora neoaphidis
2405 Erynia conica	2710 Zoophthora radicans	2866 Pandora neoaphidis
2406 Pandora dipterigena	2711 Zoophthora radicans	2867 Pandora neoaphidis
2407 Erynia rhizospora	2712 Zoophthora radicans	2868 Pandora neoaphidis
2409 Pandora delphacis	2713 Zoophthora radicans	2870 Pandora neoaphidis
2410 Zoophthora radicans	2714 Zoophthora radicans	2872 Pandora neoaphidis
2411 Zoophthora radicans	2715 Conidiobolus coronatus	2873 Pandora neoaphidis
2493 Conidiobolus pseudapiculatus	2716 Zoophthora radicans	2874 Pandora neoaphidis
2494 Conidiobolus sp.	2717 Zoophthora radicans	2875 Pandora neoaphidis

2876	<i>Pandora neoaphidis</i>	3074	<i>Entomophthora muscae</i>	3213	<i>Zoopththora radicans</i>
2893	<i>Zoopththora radicans</i>	3075	<i>Pandora blunckii</i>	3214	<i>Zoopththora radicans</i>
2896	<i>Entomophaga aulicae</i>	3077	<i>Entomophaga macleodii</i>	3217	<i>Zoopththora radicans</i>
2897	<i>Entomophaga aulicae</i>	3078	<i>Entomophaga macleodii</i>	3222	<i>Conidiobolus coronatus</i>
2898	<i>Entomophaga aulicae</i>	3079	<i>Entomophaga macleodii</i>	3225	<i>Batkoa apiculata</i>
2899	<i>Entomophaga aulicae</i>	3080	<i>Batkoa apiculata</i>	3226	<i>Batkoa apiculata</i>
2900	<i>Entomophaga aulicae</i>	3081	<i>Pandora neoaphidis</i>	3229	<i>Erynia curvispora</i>
2901	<i>Entomophaga aulicae</i>	3082	<i>Pandora neoaphidis</i>	3234	<i>Pandora neoaphidis</i>
2902	<i>Entomophaga aulicae</i>	3087	<i>Conidiobolus coronatus</i>	3237	<i>Pandora neoaphidis</i>
2903	<i>Entomophaga aulicae</i>	3088	<i>Batkoa apiculata</i>	3238	<i>Pandora neoaphidis</i>
2904	<i>Entomophaga aulicae</i>	3089	<i>Conidiobolus obscurus</i>	3240	<i>Pandora neoaphidis</i>
2905	<i>Entomophaga aulicae</i>	3090	<i>Conidiobolus obscurus</i>	3241	<i>Pandora neoaphidis</i>
2906	<i>Furia gastropachae</i>	3091	<i>Batkoa apiculata</i>	3244	<i>Erynia curvispora</i>
2914	<i>Conidiobolus thromboides</i>	3092	<i>Conidiobolus obscurus</i>	3248	<i>Pandora neoaphidis</i>
2924	<i>Conidiobolus sp.</i>	3093	<i>Pandora delphacis</i>	3249	<i>Pandora neoaphidis</i>
2925	<i>Conidiobolus sp.</i>	3094	<i>Pandora delphacis</i>	3250	<i>Pandora neoaphidis</i>
2926	<i>Conidiobolus sp.</i>	3095	<i>Pandora delphacis</i>	3251	<i>Pandora neoaphidis</i>
2927	<i>Conidiobolus sp.</i>	3096	<i>Pandora delphacis</i>	3282	<i>Strongwellsea castrans</i>
2928	<i>Conidiobolus sp.</i>	3099	<i>Conidiobolus coronatus</i>	3283	<i>Zoopththora radicans</i>
2936	<i>Batkoa major</i>	3102	<i>Batkoa major</i>	3284	<i>Zoopththora radicans</i>
2955	<i>Conidiobolus thromboides</i>	3103	<i>Batkoa major</i>	3342	<i>Zoopththora phytonomi</i>
2963	<i>Entomophaga praxibuli</i>	3104	<i>Zoopththora radicans</i>	3343	<i>Zoopththora phytonomi</i>
2964	<i>Entomophaga praxibuli</i>	3105	<i>Zoopththora radicans</i>	3344	<i>Zoopththora phytonomi</i>
2965	<i>Entomophaga praxibuli</i>	3106	<i>Pandora delphacis</i>	3355	<i>Zoopththora radicans</i>
2966	<i>Entomophaga praxibuli</i>	3107	<i>Pandora delphacis</i>	3356	<i>Entomophaga praxibuli</i>
2967	<i>Entomophaga praxibuli</i>	3109	<i>Conidiobolus coronatus</i>	3357	<i>Entomophaga praxibuli</i>
2968	<i>Entomophaga praxibuli</i>	3110	<i>Entomophaga maimaiga</i>	3358	<i>Entomophaga praxibuli</i>
2969	<i>Entomophaga praxibuli</i>	3114	<i>Zoopththora radicans</i>	3359	<i>Conidiobolus thromboides</i>
2970	<i>Entomophaga praxibuli</i>	3115	<i>Zoopththora radicans</i>	3360	<i>Conidiobolus thromboides</i>
2977	<i>Zoopththora radicans</i>	3116	<i>Zoopththora radicans</i>	3361	<i>Conidiobolus thromboides</i>
2978	<i>Zoopththora radicans</i>	3117	<i>Zoopththora radicans</i>	3362	<i>Conidiobolus thromboides</i>
2979	<i>Zoopththora radicans</i>	3118	<i>Zoopththora radicans</i>	3363	<i>Conidiobolus thromboides</i>
2980	<i>Zoopththora radicans</i>	3119	<i>Zoopththora radicans</i>	3364	<i>Conidiobolus thromboides</i>
2994	<i>Zoopththora radicans</i>	3126	<i>Pandora neoaphidis</i>	3365	<i>Pandora neoaphidis</i>
2995	<i>Zoopththora radicans</i>	3129	<i>Conidiobolus thromboides</i>	3366	<i>Pandora neoaphidis</i>
2996	<i>Zoopththora radicans</i>	3130	<i>Batkoa apiculata</i>	3367	<i>Pandora neoaphidis</i>
3002	<i>Zoopththora radicans</i>	3131	<i>Batkoa sp.</i>	3376	<i>Zoopththora radicans</i>
3003	<i>Zoopththora radicans</i>	3132	<i>Conidiobolus obscurus</i>	3377	<i>Zoopththora radicans</i>
3004	<i>Zoopththora radicans</i>	3133	<i>Conidiobolus obscurus</i>	3379	<i>Conidiobolus coronatus</i>
3005	<i>Zoopththora radicans</i>	3134	<i>Conidiobolus obscurus</i>	3383	<i>Conidiobolus sp.</i>
3006	<i>Zoopththora radicans</i>	3135	<i>Conidiobolus obscurus</i>	3384	<i>Conidiobolus sp.</i>
3007	<i>Zoopththora radicans</i>	3136	<i>Batkoa apiculata</i>	3390	<i>Zoopththora radicans</i>
3008	<i>Zoopththora radicans</i>	3137	<i>Conidiobolus obscurus</i>	3402	<i>Conidiobolus sp.</i>
3009	<i>Zoopththora radicans</i>	3138	<i>Conidiobolus obscurus</i>	3406	<i>Conidiobolus sp.</i>
3010	<i>Zoopththora radicans</i>	3139	<i>Conidiobolus obscurus</i>	3407	<i>Conidiobolus sp.</i>
3011	<i>Zoopththora radicans</i>	3140	<i>Batkoa apiculata</i>	3409	<i>Conidiobolus sp.</i>
3012	<i>Zoopththora radicans</i>	3141	<i>Conidiobolus obscurus</i>	3410	<i>Pandora neoaphidis</i>
3013	<i>Zoopththora radicans</i>	3149	<i>Zoopththora radicans</i>	3411	<i>Pandora neoaphidis</i>
3016	<i>Entomophaga aulicae</i>	3150	<i>Zoopththora radicans</i>	3412	<i>Pandora neoaphidis</i>
3021	<i>Zoopththora radicans</i>	3151	<i>Zoopththora radicans</i>	3414	<i>Conidiobolus coronatus</i>
3022	<i>Zoopththora radicans</i>	3159	<i>Zoopththora radicans</i>	3415	<i>Conidiobolus coronatus</i>
3023	<i>Zoopththora radicans</i>	3160	<i>Zoopththora radicans</i>	3459	<i>Pandora neoaphidis</i>
3024	<i>Zoopththora radicans</i>	3161	<i>Zoopththora radicans</i>	3484	<i>Pandora delphacis</i>
3026	<i>Zoopththora radicans</i>	3162	<i>Zoopththora radicans</i>	3485	<i>Strongwellsea castrans</i>
3027	<i>Zoopththora occidentalis</i>	3163	<i>Zoopththora radicans</i>	3486	<i>Zoopththora sp.</i>
3028	<i>Zoopththora occidentalis</i>	3164	<i>Zoopththora radicans</i>	3487	<i>Zoopththora sp.</i>
3029	<i>Zoopththora occidentalis</i>	3165	<i>Zoopththora radicans</i>	3488	<i>Zoopththora sp.</i>
3039	<i>Entomophaga aulicae</i>	3170	<i>Zoopththora radicans</i>	3602	<i>Entomophaga aulicae</i>
3052	<i>Entomophaga maimaiga</i>	3171	<i>Zoopththora radicans</i>	3623	<i>Zoopththora radicans</i>
3053	<i>Entomophaga maimaiga</i>	3172	<i>Zoopththora radicans</i>	3697	<i>Zoopththora radicans</i>
3058	<i>Entomophaga praxibuli</i>	3174	<i>Pandora neoaphidis</i>	3737	<i>Zoopththora radicans</i>
3059	<i>Entomophaga praxibuli</i>	3175	<i>Pandora neoaphidis</i>	3762	<i>Entomophaga maimaiga</i>
3060	<i>Entomophaga praxibuli</i>	3200	<i>Pandora blunckii</i>	3763	<i>Conidiobolus sp.</i>
3061	<i>Entomophaga praxibuli</i>	3201	<i>Pandora sp.</i>	3764	<i>Basidiobolus sp.</i>
3062	<i>Pandora delphacis</i>	3202	<i>Pandora blunckii</i>	3828	<i>Entomophaga maimaiga</i>
3068	<i>Entomophaga praxibuli</i>	3204	<i>Zoopththora radicans</i>	3829	<i>Entomophaga maimaiga</i>
3069	<i>Entomophaga praxibuli</i>	3205	<i>Zoopththora radicans</i>	3830	<i>Entomophaga maimaiga</i>
3071	<i>Zoopththora occidentalis</i>	3206	<i>Zoopththora radicans</i>	3831	<i>Entomophaga maimaiga</i>
3072	<i>Pandora delphacis</i>	3208	<i>Conidiobolus sp.</i>	3832	<i>Entomophaga maimaiga</i>
3073	<i>Zoopththora occidentalis</i>	3212	<i>Entomophaga aulicae</i>	3833	<i>Entomophaga maimaiga</i>

3834 Entomophaga maimaiga	5397 Entomophaga maimaiga	5917 Basidiobolus ranarum
3835 Entomophaga maimaiga	5398 Entomophaga maimaiga	5918 Basidiobolus ranarum
3880 Entomophaga maimaiga	5399 Entomophaga maimaiga	5919 Basidiobolus ranarum
3887 Entomophaga maimaiga	5400 Entomophaga maimaiga	5920 Basidiobolus ranarum
3913 Entomophaga maimaiga	5401 Entomophaga maimaiga	5921 Basidiobolus ranarum
4004 Entomophaga aulicae	5403 Pandora neoaphidis	5922 Basidiobolus ranarum
4005 Entomophaga aulicae	5404 Conidiobolus sp.	5923 Basidiobolus ranarum
4006 Entomophaga aulicae	5405 Conidiobolus sp.	5924 Basidiobolus ranarum
4007 Entomophaga aulicae	5406 Conidiobolus sp.	5925 Basidiobolus ranarum
4008 Entomophaga aulicae	5541 Furia gastropachae	5926 Basidiobolus ranarum
4504 Entomophaga maimaiga	5542 Furia gastropachae	5927 Basidiobolus ranarum
4505 Entomophaga maimaiga	5543 Furia gastropachae	5928 Basidiobolus ranarum
4506 Entomophaga maimaiga	5544 Furia gastropachae	5929 Basidiobolus ranarum
4507 Entomophaga maimaiga	5545 Furia gastropachae	5930 Basidiobolus ranarum
4508 Entomophaga maimaiga	5546 Furia gastropachae	5931 Basidiobolus ranarum
4509 Entomophaga maimaiga	5547 Furia gastropachae	5932 Basidiobolus ranarum
4510 Entomophaga maimaiga	5552 Batkoa apiculata	5933 Basidiobolus ranarum
4520 Zoophthora radicans	5563 Entomophaga maimaiga	5934 Basidiobolus ranarum
4545 Entomophaga maimaiga	5564 Entomophaga maimaiga	5935 Basidiobolus ranarum
4549 Entomophaga maimaiga	5565 Entomophaga maimaiga	5936 Basidiobolus ranarum
4550 Entomophaga maimaiga	5566 Entomophaga maimaiga	5937 Basidiobolus ranarum
4551 Entomophaga maimaiga	5567 Entomophaga maimaiga	5938 Basidiobolus ranarum
4552 Entomophaga maimaiga	5568 Entomophaga maimaiga	5939 Basidiobolus ranarum
4553 Entomophaga maimaiga	5569 Entomophaga maimaiga	5940 Basidiobolus ranarum
4554 Entomophaga maimaiga	5570 Entomophaga maimaiga	5941 Basidiobolus ranarum
4555 Entomophaga maimaiga	5571 Entomophaga maimaiga	5942 Basidiobolus ranarum
4781 Zoophthora radicans	5572 Entomophaga maimaiga	5943 Basidiobolus ranarum
4782 Zoophthora radicans	5620 Neozygites parvispora	5944 Basidiobolus ranarum
4783 Zoophthora radicans	5621 Neozygites parvispora	5945 Basidiobolus ranarum
4784 Zoophthora radicans	5707 Pandora neoaphidis	5946 Basidiobolus ranarum
4785 Zoophthora radicans	5708 Pandora neoaphidis	5947 Basidiobolus ranarum
4797 Conidiobolus coronatus	5711 Entomophaga maimaiga	5948 Basidiobolus ranarum
4934 Pandora neoaphidis	5712 Conidiobolus sp.	5949 Basidiobolus ranarum
4948 Entomophaga macleodii	5810 Batkoa sp.	5950 Basidiobolus ranarum
4949 Entomophaga macleodii	5811 Entomophthora culicis	5951 Basidiobolus ranarum
4950 Entomophaga macleodii	5812 Pandora sp.	5952 Entomophthora muscae
4951 Entomophaga macleodii	5814 Zoophthora radicans	5953 Entomophthora muscae
4952 Entomophaga macleodii	5868 Entomophthora thripidum	5954 Entomophthora muscae
4953 Entomophaga macleodii	5869 Furia gastropachae	5955 Entomophthora syrphi
4968 Conidiobolus thombooides	5870 Furia gastropachae	5992 Conidiobolus obscurus
5162 Conidiobolus coronatus	5871 Furia gastropachae	5993 Conidiobolus osmodes(?)
5201 Neozygites floridana(?)	5872 Furia gastropachae	5994 Batkoa apiculata
5202 Neozygites floridana(?)	5889 Basidiobolus ranarum	5995 Pandora neoaphidis
5336 Basidiobolus sp.	5890 Basidiobolus ranarum	6000 Conidiobolus thombooides
5348 Entomophthora schizophorae	5891 Basidiobolus ranarum	6001 Conidiobolus thombooides
5371 Pandora neoaphidis	5892 Basidiobolus ranarum	6003 Zoophthora radicans
5372 Pandora neoaphidis	5893 Basidiobolus ranarum	6004 Entomophaga maimaiga
5373 Pandora neoaphidis	5894 Basidiobolus ranarum	6005 Entomophaga maimaiga
5374 Pandora neoaphidis	5895 Basidiobolus ranarum	6006 Entomophaga maimaiga
5376 Neozygites floridana(?)	5896 Basidiobolus ranarum	6007 Entomophaga maimaiga
5377 Entomophaga maimaiga	5897 Basidiobolus ranarum	6051 Entomophaga maimaiga
5378 Entomophaga maimaiga	5898 Basidiobolus ranarum	6052 Entomophaga maimaiga
5379 Entomophaga maimaiga	5899 Basidiobolus ranarum	6053 Entomophaga maimaiga
5380 Entomophaga maimaiga	5900 Basidiobolus ranarum	6054 Entomophaga maimaiga
5381 Entomophaga maimaiga	5901 Basidiobolus ranarum	6105 Entomophaga maimaiga
5382 Entomophaga maimaiga	5902 Basidiobolus ranarum	6106 Entomophaga maimaiga
5383 Entomophaga maimaiga	5903 Basidiobolus ranarum	6121 Entomophthora muscae
5384 Entomophaga maimaiga	5904 Basidiobolus ranarum	6122 Entomophthora muscae
5385 Entomophaga maimaiga	5905 Basidiobolus ranarum	6123 Entomophthora muscae
5386 Entomophaga maimaiga	5906 Basidiobolus ranarum	6124 Entomophthora muscae
5387 Entomophaga maimaiga	5907 Basidiobolus ranarum	6125 Entomophthora muscae
5388 Entomophaga maimaiga	5908 Basidiobolus ranarum	6126 Entomophthora muscae
5389 Entomophaga maimaiga	5909 Basidiobolus ranarum	6127 Entomophthora muscae
5390 Entomophaga maimaiga	5910 Basidiobolus ranarum	6128 Entomophthora muscae
5391 Entomophaga maimaiga	5911 Basidiobolus ranarum	6129 Entomophthora muscae
5392 Entomophaga maimaiga	5912 Basidiobolus ranarum	6130 Entomophthora muscae
5393 Entomophaga maimaiga	5913 Basidiobolus ranarum	6131 Entomophthora muscae
5394 Entomophaga maimaiga	5914 Basidiobolus ranarum	6132 Entomophthora muscae
5395 Entomophaga maimaiga	5915 Basidiobolus ranarum	6133 Entomophthora muscae
5396 Entomophaga maimaiga	5916 Basidiobolus ranarum	6134 Entomophthora muscae

6135	<i>Entomophthora muscae</i>	6308	<i>Pandora blunckii</i>	6715	<i>Entomophthora muscae</i>
6136	<i>Entomophthora muscae</i>	6309	<i>Pandora blunckii</i>	6716	<i>Entomophthora muscae</i>
6137	<i>Entomophthora schizophorae</i>	6310	<i>Pandora blunckii</i>	6717	<i>Entomophthora muscae</i>
6138	<i>Entomophthora schizophorae</i>	6311	<i>Pandora blunckii</i>	6724	<i>Entomophaga maimaiga</i>
6139	<i>Entomophthora schizophorae</i>	6312	<i>Pandora blunckii</i>	6725	<i>Entomophaga maimaiga</i>
6140	<i>Entomophthora muscae</i>	6313	<i>Zoophthora radicans</i>	6726	<i>Entomophaga maimaiga</i>
6141	<i>Entomophthora muscae</i>	6314	<i>Zoophthora radicans</i>	6727	<i>Entomophaga maimaiga</i>
6142	<i>Entomophthora schizophorae</i>	6315	<i>Zoophthora radicans</i>	6728	<i>Entomophaga maimaiga</i>
6143	<i>Entomophthora schizophorae</i>	6316	<i>Pandora blunckii</i>	6729	<i>Entomophaga maimaiga</i>
6161	<i>Entomophaga maimaiga</i>	6361	<i>Conidiobolus lamprauges</i>	6811	<i>Entomophthora muscae</i>
6162	<i>Entomophaga maimaiga</i>	6377	<i>Conidiobolus adiaeretus</i>	6812	<i>Entomophthora muscae</i>
6163	<i>Entomophaga maimaiga</i>	6378	<i>Conidiobolus iuxtagenitus</i>	6813	<i>Entomophthora muscae</i>
6164	<i>Entomophthora muscae</i>	6379	<i>Conidiobolus coronatus</i>	6814	<i>Entomophthora muscae</i>
6165	<i>Entomophthora muscae</i>	6380	<i>Basidiobolus ranarum</i>	6815	<i>Entomophthora muscae</i>
6166	<i>Pandora neoaphidis</i>	6381	<i>Conidiobolus thromboides</i>	6816	<i>Entomophthora schizophorae</i>
6168	<i>Entomophaga maimaiga</i>	6382	<i>Basidiobolus ranarum</i>	6817	<i>Entomophthora schizophorae</i>
6169	<i>Entomophaga maimaiga</i>	6383	<i>Conidiobolus pumilus</i>	6818	<i>Entomophthora muscae</i>
6170	<i>Entomophaga maimaiga</i>	6384	<i>Conidiobolus firmipilleus</i>	6819	<i>Entomophthora syrphi</i>
6171	<i>Entomophaga maimaiga</i>	6385	<i>Conidiobolus lamprauges</i>	6820	<i>Entomophthora syrphi</i>
6172	<i>Entomophaga maimaiga</i>	6386	<i>Conidiobolus heterosporus</i>	6821	<i>Entomophthora muscae</i>
6173	<i>Entomophaga maimaiga</i>	6424	<i>Conidiobolus sp.</i>	6902	<i>Pandora neoaphidis</i>
6174	<i>Entomophaga maimaiga</i>	6505	<i>Conidiobolus sp.</i>	6913	<i>Conidiobolus antarcticus</i>
6179	<i>Batkoa sp.</i>	6512	<i>Conidiobolus coronatus</i>	6917	<i>Zoophthora radicans</i>
6210	<i>Batkoa sp.</i>	6517	<i>Entomophthora thripidum</i>	6918	<i>Entomophthora muscae</i>
6211	<i>Furia sp.</i>	6518	<i>Entomophthora thripidum</i>	7010	<i>Conidiobolus coronatus</i>
6212	<i>Entomophaga maimaiga</i>	6519	<i>Entomophthora thripidum</i>	7011	<i>Conidiobolus coronatus</i>
6218	<i>Entomophaga maimaiga</i>	6520	<i>Entomophthora thripidum</i>	7012	<i>Conidiobolus coronatus</i>
6219	<i>Neozygites floridana(?)</i>	6521	<i>Entomophthora thripidum</i>	7013	<i>Conidiobolus coronatus</i>
6220	<i>Neozygites floridana(?)</i>	6522	<i>Entomophthora thripidum</i>	7068	<i>Batkoa papillata(?)</i>
6221	<i>Neozygites floridana(?)</i>	6523	<i>Entomophaga maimaiga</i>	7101	<i>Entomophaga maimaiga</i>
6223	<i>Entomophaga maimaiga</i>	6524	<i>Entomophaga maimaiga</i>	7102	<i>Entomophaga maimaiga</i>
6224	<i>Entomophaga maimaiga</i>	6525	<i>Entomophthora thripidum</i>	7103	<i>Entomophaga maimaiga</i>
6251	<i>Entomophthora planchoniana</i>	6538	<i>Pandora delphacis</i>	7104	<i>Entomophaga maimaiga</i>
6252	<i>Entomophthora planchoniana</i>	6539	<i>Pandora delphacis</i>	7105	<i>Entomophaga maimaiga</i>
6253	<i>Entomophaga maimaiga</i>	6605	<i>Zoophthora radicans</i>	7106	<i>Entomophaga maimaiga</i>
6254	<i>Entomophaga maimaiga</i>	6625	<i>Entomophaga maimaiga</i>	7107	<i>Entomophaga maimaiga</i>
6255	<i>Entomophaga maimaiga</i>	6626	<i>Entomophaga maimaiga</i>	7108	<i>Entomophaga maimaiga</i>
6256	<i>Entomophaga maimaiga</i>	6627	<i>Entomophaga maimaiga</i>	7109	<i>Entomophaga maimaiga</i>
6257	<i>Entomophaga maimaiga</i>	6628	<i>Entomophaga maimaiga</i>	7110	<i>Entomophaga maimaiga</i>
6258	<i>Entomophaga maimaiga</i>	6629	<i>Entomophaga maimaiga</i>	7111	<i>Entomophaga maimaiga</i>
6264	<i>Entomophaga maimaiga</i>	6630	<i>Entomophaga maimaiga</i>	7112	<i>Entomophaga maimaiga</i>
6265	<i>Entomophaga maimaiga</i>	6631	<i>Pandora neoaphidis</i>	7113	<i>Entomophaga maimaiga</i>
6266	<i>Entomophaga maimaiga</i>	6652	<i>Entomophaga maimaiga</i>	7114	<i>Entomophaga maimaiga</i>
6267	<i>Entomophaga maimaiga</i>	6653	<i>Entomophaga maimaiga</i>	7115	<i>Entomophaga maimaiga</i>
6268	<i>Entomophaga maimaiga</i>	6654	<i>Entomophaga maimaiga</i>	7116	<i>Entomophaga maimaiga</i>
6269	<i>Entomophaga maimaiga</i>	6655	<i>Entomophaga maimaiga</i>	7120	<i>Entomophaga maimaiga</i>
6270	<i>Entomophaga maimaiga</i>	6656	<i>Entomophaga maimaiga</i>	7121	<i>Entomophaga maimaiga</i>
6271	<i>Entomophaga maimaiga</i>	6657	<i>Entomophaga maimaiga</i>	7122	<i>Entomophaga maimaiga</i>
6272	<i>Entomophaga maimaiga</i>	6659	<i>Conidiobolus sp.</i>	7123	<i>Entomophaga maimaiga</i>
6274	<i>Entomophthora muscae</i>	6662	<i>Conidiobolus thromboides</i>	7124	<i>Entomophaga maimaiga</i>
6276	<i>Neozygites parvispora</i>	6663	<i>Entomophaga maimaiga</i>	7125	<i>Entomophaga maimaiga</i>
6277	<i>Neozygites parvispora</i>	6664	<i>Entomophaga maimaiga</i>	7126	<i>Entomophaga maimaiga</i>
6278	<i>Neozygites parvispora</i>	6665	<i>Entomophaga maimaiga</i>	7127	<i>Entomophaga maimaiga</i>
6279	<i>Neozygites parvispora</i>	6666	<i>Entomophaga maimaiga</i>	7131	<i>Entomophaga maimaiga</i>
6280	<i>Neozygites parvispora</i>	6667	<i>Entomophaga maimaiga</i>	7132	<i>Entomophaga maimaiga</i>
6293	<i>Pandora blunckii</i>	6668	<i>Entomophaga maimaiga</i>	7133	<i>Entomophaga maimaiga</i>
6294	<i>Pandora blunckii</i>	6701	<i>Entomophthora muscae</i>	7134	<i>Entomophaga maimaiga</i>
6295	<i>Pandora blunckii</i>	6702	<i>Entomophthora syrphi</i>	7135	<i>Entomophaga maimaiga</i>
6296	<i>Pandora blunckii</i>	6703	<i>Entomophthora schizophorae</i>	7136	<i>Entomophaga maimaiga</i>
6297	<i>Pandora blunckii</i>	6704	<i>Entomophthora scatophagae</i>	7137	<i>Entomophaga maimaiga</i>
6298	<i>Pandora blunckii</i>	6705	<i>Entomophthora scatophagae</i>	7138	<i>Entomophaga maimaiga</i>
6299	<i>Pandora blunckii</i>	6706	<i>Entomophthora muscae</i>	7139	<i>Entomophaga maimaiga</i>
6300	<i>Pandora blunckii</i>	6707	<i>Entomophthora muscae</i>	7140	<i>Entomophaga aulicae</i>
6301	<i>Pandora blunckii</i>	6708	<i>Entomophthora muscae</i>	7141	<i>Entomophaga aulicae</i>
6302	<i>Pandora blunckii</i>	6709	<i>Entomophthora muscae</i>	7142	<i>Entomophaga aulicae</i>
6303	<i>Zoophthora radicans</i>	6710	<i>Entomophthora muscae</i>	7143	<i>Entomophaga aulicae</i>
6304	<i>Pandora blunckii</i>	6711	<i>Entomophthora muscae</i>	7144	<i>Entomophaga aulicae</i>
6305	<i>Pandora blunckii</i>	6712	<i>Entomophthora muscae</i>	7145	<i>Entomophaga aulicae</i>
6306	<i>Pandora blunckii</i>	6713	<i>Entomophthora muscae</i>	7183	<i>Entomophaga maimaiga</i>
6307	<i>Pandora blunckii</i>	6714	<i>Entomophthora muscae</i>	7184	<i>Entomophaga maimaiga</i>

7185	<i>Entomophaga maimaiga</i>	9890	<i>Basidiobolus</i> sp.
7186	<i>Entomophaga maimaiga</i>	9891	<i>Basidiobolus</i> sp.
7187	<i>Entomophaga maimaiga</i>	9892	<i>Basidiobolus</i> sp.
7188	<i>Entomophaga maimaiga</i>	9893	<i>Basidiobolus</i> sp.
7189	<i>Entomophaga maimaiga</i>	9894	<i>Basidiobolus</i> sp.
7190	<i>Entomophaga maimaiga</i>	9895	<i>Basidiobolus</i> sp.
7203	<i>Conidiobolus coronatus</i>	9896	<i>Basidiobolus</i> sp.
7208	<i>Zoophthora radicans</i>	9897	<i>Basidiobolus</i> sp.
7209	<i>Conidiobolus thromboides</i>	9898	<i>Basidiobolus</i> sp.
7210	<i>Conidiobolus thromboides</i>	9899	<i>Basidiobolus</i> sp.
7211	<i>Conidiobolus thromboides</i>	9900	<i>Basidiobolus</i> sp.
7212	<i>Pandora neoaphidis</i>	9901	<i>Basidiobolus</i> sp.
7213	<i>Pandora neoaphidis</i>	9902	<i>Basidiobolus</i> sp.
7214	<i>Pandora neoaphidis</i>	9903	<i>Basidiobolus</i> sp.
7215	<i>Conidiobolus thromboides</i>	9904	<i>Basidiobolus</i> sp.
7216	<i>Conidiobolus</i> sp.	9905	<i>Basidiobolus</i> sp.
7217	<i>Conidiobolus obscurus</i>	9906	<i>Basidiobolus</i> sp.
7226	<i>Pandora neoaphidis</i>	9907	<i>Basidiobolus</i> sp.
7227	Unidentified <i>Entomophthorales</i> sp.	9908	<i>Basidiobolus</i> sp.
7228	Unidentified <i>Entomophthorales</i> sp.	9909	<i>Basidiobolus</i> sp.
7229	Unidentified <i>Entomophthorales</i> sp.	9910	<i>Basidiobolus</i> sp.
7230	Unidentified <i>Entomophthorales</i> sp.	9911	<i>Basidiobolus</i> sp.
7352	<i>Entomophaga maimaiga</i>	9912	<i>Basidiobolus</i> sp.
7353	<i>Entomophaga maimaiga</i>	9913	<i>Conidiobolus coronatus</i>
7370	<i>Batkoa</i> sp.	9914	<i>Conidiobolus coronatus</i>
7371	<i>Entomophthora muscae</i>	9940	<i>Conidiobolus coronatus</i>
7454	<i>Zoophthora</i> sp.	9941	<i>Conidiobolus coronatus</i>
7455	<i>Zoophthora radicans</i>	9942	<i>Conidiobolus coronatus</i>
7786	<i>Conidiobolus</i> sp.		
7788	<i>Zoophthora radicans</i>		
7789	<i>Zoophthora radicans</i>		
7922	<i>Conidiobolus coronatus</i>		
7937	<i>Pandora neoaphidis</i>		
7938	<i>Pandora neoaphidis</i>		
7939	<i>Pandora neoaphidis</i>		
7942	<i>Conidiobolus</i> sp.		
7944	<i>Conidiobolus iuxtagenitus</i>		
8000	<i>Schizangiella serpentis</i>		
8023	<i>Conidiobolus coronatus</i>		
8047	<i>Schizangiella serpentis</i>		
8307	<i>Basidiobolus haptosporus</i>		
8308	<i>Basidiobolus ranarum</i>		
8309	<i>Basidiobolus haptosporus</i>		
8313	<i>Conidiobolus</i> sp.		
8314	<i>Conidiobolus</i> sp.		
8320	<i>Conidiobolus adiaeretus</i>		
8328	<i>Basidiobolus ranarum</i>		
8329	<i>Basidiobolus meristosporus</i>		
8330	<i>Basidiobolus magnus</i>		
8331	<i>Basidiobolus haptosporus</i> var. <i>minor</i>		
8332	<i>Basidiobolus heterosporus</i>		
8427	<i>Conidiobolus adiaeretus</i>		
8428	<i>Conidiobolus megalotocus</i>		
8429	<i>Conidiobolus</i> sp.		
8430	<i>Conidiobolus stromoideus</i>		
8455	<i>Conidiobolus coronatus</i>		
8466	<i>Zoophthora radicans</i>		
8606	<i>Furia ithacensis</i>		
8607	<i>Pandora neoaphidis</i>		
8715	<i>Conidiobolus coronatus</i>		
8926	<i>Furia gastropachae</i>		
8930	<i>Pandora nouryi</i>		
8931	<i>Pandora nouryi</i>		
9266	<i>Pandora heteropterae</i>		
9295	<i>Conidiobolus coronatus</i>		
9296	<i>Conidiobolus coronatus</i>		
9536	<i>Conidiobolus obscurus</i>		
9887	<i>Basidiobolus</i> sp.		
9888	<i>Basidiobolus</i> sp.		
9889	<i>Basidiobolus</i> sp.		